	L #	Hits	Search Text	DBs	Time Stamp
1	L1	1229	(matrix or ecm) near4 metalloproteinase$1	USPAT; US-PGPUB	2002/11/07 14:41
2	L2	127	1 near8 (membrane$1 or transmembrane$1)	USPAT; US-PGPUB	2002/11/07 14:42
3	L3	110	1 near5 (membrane$1 or transmembrane$1)	USPAT; US-PGPUB	2002/11/07 14:42

PGPUB-DOCUMENT-NUMBER: 20020165137

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020165137 A1

TITLE: Nucleic acids, proteins, and antibodies

PUBLICATION-DATE: November 7, 2002

US-CL-CURRENT: 514/12,435/183 ,435/320.1 ,435/325 ,435/69.1 ,530/350 ,536/23.2

APPL-NO: 09/ 860670

DATE FILED: May 21, 2001

RELATED-US-APPL-DATA:

child 09860670 A1 20010521 parent continuation-in-part-of PCT/US01/01346 20010117 US UNKNOWN child 09860670 A1 20010521 parent continuation-in-part-of 09764859 20010117 US PENDING non-provisional-of-provisional 60205515 20000519 US non-provisional-of-provisional 60179065 20000131 US
non-provisional-of-provisional 60180628 20000204 US
non-provisional-of-provisional 60225447 20000814 US
non-provisional-of-provisional 60218290 20000714 US
non-provisional-of-provisional 60216880 20000707 US
non-provisional-of-provisional 60234997 20000925 US
non-provisional-of-provisional 60229343 20000901 US
non-provisional-of-provisional 60236367 20000929 US
non-provisional-of-provisional 60239937 20001013 US
non-provisional-of-provisional 60249210 20001117 US
non-provisional-of-provisional 60249211 20001117 US
non-provisional-of-provisional 60249214 20001117 US
non-provisional-of-provisional 60231243 20000908 US
non-provisional-of-provisional 60246477 20001108 US
non-provisional-of-provisional 60246528 20001108 US
non-provisional-of-provisional 60246525 20001108 US
non-provisional-of-provisional 60246476 20001108 US
non-provisional-of-provisional 60246526 20001108 US
non-provisional-of-provisional 60249265 20001117 US
non-provisional-of-provisional 60230437 20000906 US
non-provisional-of-provisional 60251990 20001208 US
non-provisional-of-provisional 60251988 20001205 US
non-provisional-of-provisional 60251030 20001205 US
non-provisional-of-provisional 60251479 20001206 US
non-provisional-of-provisional 60256719 20001205 US
non-provisional-of-provisional 60250160 20001201 US
non-provisional-of-provisional 60251989 20001208 US
non-provisional-of-provisional 60250391 20001201 US
non-provisional-of-provisional 60254097 20001211 US
non-provisional-of-provisional 60179065 20000131 US

non-provisional-of-provisional 60180628 20000204 US
non-provisional-of-provisional 60214886 20000628 US
non-provisional-of-provisional 60217487 20000711 US
non-provisional-of-provisional 60225758 20000814 US
non-provisional-of-provisional 60220963 20000726 US
non-provisional-of-provisional 60217496 20000711 US
non-provisional-of-provisional 60225447 20000814 US
non-provisional-of-provisional 60218290 20000714 US
non-provisional-of-provisional 60225757 20000814 US
non-provisional-of-provisional 60226868 20000822 US
non-provisional-of-provisional 60216647 20000707 US
non-provisional-of-provisional 60225267 20000814 US
non-provisional-of-provisional 60216880 20000707 US
non-provisional-of-provisional 60225270 20000814 US
non-provisional-of-provisional 60251869 20001208 US
non-provisional-of-provisional 60235834 20000927 US
non-provisional-of-provisional 60234274 20000921 US

[0001] This application claims benefit of priority under 35 U.S.C. 119(a) to the International Application No. PCT/US01/01346, filed Jan. 17, 2001 which International Application will be published by the International Bureau in the English language.

PGPUB-DOCUMENT-NUMBER: 20020161050

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020161050 A1

TITLE: Benzene butyric acids and their derivatives as inhibitors of matrix metalloproteinases

PUBLICATION-DATE: October 31, 2002

US-CL-CURRENT: 514/568,514/513 ,558/250 ,562/465

APPL-NO: 10/ 023288

DATE FILED: December 17, 2001

RELATED-US-APPL-DATA:

child 10023288 A1 20011217 parent division-of 09351549 19990712 US PENDING

PGPUB-DOCUMENT-NUMBER: 20020161000

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020161000 A1

TITLE: Pyridine matrix metalloproteinase inhibitors

PUBLICATION-DATE: October 31, 2002

US-CL-CURRENT: 514/217.04,514/338 ,514/354 ,540/597 ,546/283.7 ,546/316

APPL-NO: 10/ 071073

DATE FILED: February 8, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60268781 20010214 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of priority from U.S. provisional application number 60/268,781, filed Feb. 14, 2001.

PGPUB-DOCUMENT-NUMBER: 20020156074

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020156074 A1

TITLE: Biphenyl sulfonamides useful as matrix metalloproteinase inhibitors

PUBLICATION-DATE: October 24, 2002

US-CL-CURRENT: 514/227.8,544/60

APPL-NO: 10/ 074667

DATE FILED: February 13, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60268755 20010214 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of priority from U.S. provisional patent application No. 60/268,755, filed Feb. 14, 2001.

PGPUB-DOCUMENT-NUMBER: 20020156071

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020156071 A1

TITLE: Tricyclic biphenyl sulfonamide matrix metalloproteinase inhibitors

PUBLICATION-DATE: October 24, 2002

US-CL-CURRENT: 514/227.5,514/228.2 ,544/59 ,544/60

APPL-NO: 10/ 075431

DATE FILED: February 13, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60268754 20010214 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of priority from U.S. provisional application No. 60/268,754, filed Feb. 14, 2001.

PGPUB-DOCUMENT-NUMBER: 20020156069

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020156069 A1

TITLE: Benzo thiadiazine matrix metalloproteinase inhibitors

PUBLICATION-DATE: October 24, 2002

US-CL-CURRENT: 514/223.2,544/13

APPL-NO: 10/ 074646

DATE FILED: February 13, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60268782 20010214 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of priority from U.S. provisional application No. 60/268,782, filed Feb. 14, 2001.

PGPUB-DOCUMENT-NUMBER: 20020156061

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020156061 A1

TITLE: Isophthalic acid derivatives as matrix metalloproteinase inhibitors

PUBLICATION-DATE: October 24, 2002

US-CL-CURRENT: 514/183,514/210.18 ,514/227.8 ,514/231.8 ,514/252.11 ,514/316 ,514/422 ,514/513 ,514/522 ,514/533 ,544/357 ,544/60 ,544/78 ,546/189 ,548/518 ,548/950 ,548/962 ,558/251 ,558/414 ,562/433 ,562/453

APPL-NO: 10/ 075918

DATE FILED: February 13, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60268736 20010214 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of priority from U.S. provisional application No. 60/268,736, filed Feb. 14, 2001.

PGPUB-DOCUMENT-NUMBER: 20020151555

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020151555 A1

TITLE: Pyrimidine matrix metalloproteinase inhibitors

PUBLICATION-DATE: October 17, 2002

US-CL-CURRENT: 514/256,514/227.8 ,514/235.8 ,514/252.14 ,544/122 ,544/295 ,544/315 ,544/330 ,544/60

APPL-NO: 10/ 075909

DATE FILED: February 13, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60268779 20010214 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of priority to U.S. provisional application No. 60/268,779, filed Feb. 14, 2001.

PGPUB-DOCUMENT-NUMBER: 20020143048

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020143048 A1

TITLE: Method for treating atherosclerosis or restenosis using microtubule stabilizing agent

PUBLICATION-DATE: October 3, 2002

US-CL-CURRENT: 514/449

APPL-NO: 10/ 121500

DATE FILED: April 11, 2002

RELATED-US-APPL-DATA:

child 10121500 A1 20020411 parent continuation-of 08821906 19970321 US PENDING
child 08821906 19970321 US parent continuation-of 08633185 19960418 US GRANTED
parent-patent 5616608 US child 08633185 19960418 US parent continuation-of 08099067 19930729 US ABANDONED

PGPUB-DOCUMENT-NUMBER: 20020142362

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020142362 A1

TITLE: Colorimetric assay system using thiopeptolide substrate for detection of **membrane-type matrix metalloproteinase**

PUBLICATION-DATE: October 3, 2002

US-CL-CURRENT: 435/23,435/125

APPL-NO: 09/ 576501

DATE FILED: May 23, 2000

CONTINUED PROSECUTION APPLICATION: This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

PGPUB-DOCUMENT-NUMBER: 20020142287

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020142287 A1

TITLE: High throughput assay to detect inhibitors of the map kinase pathway

PUBLICATION-DATE: October 3, 2002

US-CL-CURRENT: 435/4,435/6 ,435/8

APPL-NO: 10/ 017178

DATE FILED: December 14, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60255548 20001214 US

RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional App. No. 60/255,548 filed Dec. 14, 2000, which is incorporated by reference herein in its entirety.

PGPUB-DOCUMENT-NUMBER: 20020132979

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020132979 A1

TITLE: Compositions and methods for inhibition of cancer invasion and angiogenesis

PUBLICATION-DATE: September 19, 2002

US-CL-CURRENT: 530/350

APPL-NO: 09/ 823277

DATE FILED: March 30, 2001

RELATED-US-APPL-DATA:

child 09823277 A1 20010330 parent continuation-in-part-of 09541785 20000403 US PENDING non-provisional-of-provisional 60193987 20000401 US

RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. Ser. No. 09/541,785 which was filed on Apr. 3, 2000, which claims the benefit of provisional application U.S. Ser. No. 06/193,987 filed on Apr. 1, 2000.

PGPUB-DOCUMENT-NUMBER: 20020123635

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020123635 A1

TITLE: Polypyrrolinone based inhibitors of matrix metalloproteases

PUBLICATION-DATE: September 5, 2002

US-CL-CURRENT: 548/314.7,548/465 ,548/519

APPL-NO: 09/ 973493

DATE FILED: October 9, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60238375 20001006 US

CROSS-REFERENCE TO PRIOR APPLICATIONS

[0001] This application claims the benefit of the following provisional application: U.S. Ser. No. 60/238,735 filed Oct. 6, 2000.

PGPUB-DOCUMENT-NUMBER: 20020107361

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020107361 A1

TITLE: Novel metalloproteases having thrombospondin domains and nucleic acid compositions encoding the same

PUBLICATION-DATE: August 8, 2002

US-CL-CURRENT: 530/350,435/325 ,435/69.1 ,530/387.9 ,536/23.1

APPL-NO: 09/ 788043

DATE FILED: February 16, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60184152 20000218 US

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] Pursuant to 35 U.S.C. .sctn.119 (e), this application claims priority to the filing date of the U.S. Provisional Patent Application Serial No. 60/184,152 filed Feb. 18, 2000, the disclosure of which is herein incorporated by reference.

PGPUB-DOCUMENT-NUMBER: 20020103354

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020103354 A1

TITLE: Splicing variant of human **membrane-type matrix metalloproteinase**-5 (MT-MMP5-L)

PUBLICATION-DATE: August 1, 2002

US-CL-CURRENT: 536/23.2,435/226 ,435/320.1 ,435/325 ,435/69.1

APPL-NO: 09/ 891160

DATE FILED: June 25, 2001

RELATED-US-APPL-DATA:

child 09891160 A1 20010625 parent division-of 09294841 19990420 US PATENTED

PGPUB-DOCUMENT-NUMBER: 20020086399

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020086399 A1

TITLE: Method of measurement of protease and thin membranes used for said method

PUBLICATION-DATE: July 4, 2002

US-CL-CURRENT: 435/212,422/68.1 ,435/23

APPL-NO: 09/ 917897

DATE FILED: July 31, 2001

RELATED-US-APPL-DATA:

child 09917897 A1 20010731 parent continuation-of 09125944 19990210 US UNKNOWN

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	42646/1996	1996JP-42646/1996	February 29, 1996

PGPUB-DOCUMENT-NUMBER: 20020082196

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020082196 A1

TITLE: Peptides with physiological activity

PUBLICATION-DATE: June 27, 2002

US-CL-CURRENT: 514/2,435/320.1 ,435/325 ,435/69.1 ,530/324 ,536/23.4

APPL-NO: 09/ 879666

DATE FILED: June 12, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60211859 20000614 US

CROSS-REFERENCES

[0001] This application claims priority from Provisional Application Ser. No. 60/211,859 by Chanda Zaveri, filed Jun. 14, 2000, entitled "Peptides with Physiological Activity," which is incorporated herein in its entirety by this reference.

PGPUB-DOCUMENT-NUMBER: 20020068062

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020068062 A1

TITLE: Inhibitors of the formation of soluble human CD23

PUBLICATION-DATE: June 6, 2002

US-CL-CURRENT: 424/146.1,514/44

APPL-NO: 09/ 827406

DATE FILED: April 5, 2001

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
EP	00 107 515.9	2000EP-00 107 515.9	April 7, 2000

RELATED APPLICATIONS

[0001] This application claims the benefit of and priority to European Patent Application 00 107 515.9, filed Apr. 7, 2000.

PGPUB-DOCUMENT-NUMBER: 20020064799

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020064799 A1

TITLE: Proteomic analysis

PUBLICATION-DATE: May 30, 2002

US-CL-CURRENT: 435/7.1,546/339 ,548/570 ,568/25

APPL-NO: 09/ 836145

DATE FILED: April 16, 2001

RELATED-US-APPL-DATA:

child 09836145 A1 20010416 parent continuation-of 09738271 20001215 US PENDING
non-provisional-of-provisional 60195954 20000410 US
non-provisional-of-provisional 60212891 20000620 US
non-provisional-of-provisional 60222532 20000802 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a Continuation of Ser. No. 09/738,271, filed Dec. 15, 2000, which claims priority under 35 U.S.C. .sctn.119(e)(1) to U.S. provisional applications serial Nos. 60/195,954, filed Apr. 10, 2000; 60/212,891, filed Jun. 20, 2000; and 60/222,532, filed Aug. 2, 2000, all of which are herein incorporated by reference in their entirety.

PGPUB-DOCUMENT-NUMBER: 20020049422

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020049422 A1

TITLE: Homeopathic preparations

PUBLICATION-DATE: April 25, 2002

US-CL-CURRENT: 604/500,424/523 ,424/752 ,424/94.1 ,514/2 ,514/458 ,514/557 ,514/78

APPL-NO: 10/ 001367

DATE FILED: October 30, 2001

RELATED-US-APPL-DATA:

child 10001367 A1 20011030 parent continuation-in-part-of 09870132 20010529 US PENDING child 09870132 20010529 US parent continuation-of 09251820 19990217 US PATENTED child 09251820 19990217 US parent continuation-in-part-of 08855096 19970513 US PATENTED child 08855096 19970513 US parent continuation-in-part-of 08710040 19960910 US PATENTED child 08710040 19960910 US parent continuation-of 08488722 19950608 US ABANDONED child 08488722 19950608 US parent continuation-in-part-of 08221365 19940331 US ABANDONED
non-provisional-of-provisional 60255958 20001215 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 09/870,132, filed May 29, 2001, which is a continuation of U.S. patent application Ser. No. 09/251,820, filed Feb. 17, 1999, issued May 29, 2001 as U.S. Pat. No. 6,239,105, which is a continuation-in-part of U.S. patent application Ser. No. 08/855,096 filed May 13, 1997, issued Feb. 15, 200 as U.S. Pat. No. 6,024,734, which is a continuation-in-part of prior U.S. patent application Ser. No. 08/710,040 filed Sep. 10, 1996, issued May 13, 1997 as U.S. Pat. No. 5,629,286, which is a continuation of U.S. patent application Ser. No. 08/488,722, filed Jun. 8, 1995, now abandoned, which is a continuation-in-part of U.S. patent application Ser. No. 08/221,365 filed Mar. 31, 1994, now abandoned. This application also claims the benefit of priority under 35 U.S.C. 119(e) to U.S. patent application Ser. No. 60/255,958, filed Dec. 15, 2000. Each of these applications and U.S. patents is incorporated herein by reference in its entirety.

PGPUB-DOCUMENT-NUMBER: 20020045603

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020045603 A1

TITLE: Method of inhibiting **membrane-type matrix metalloproteinase**

PUBLICATION-DATE: April 18, 2002

US-CL-CURRENT: 514/152

APPL-NO: 09/ 855067

DATE FILED: May 14, 2001

RELATED-US-APPL-DATA:

child 09855067 A1 20010514 parent continuation-of 09052222 19980331 US UNKNOWN

[0001] This Application is a Continuation Application of Ser. No. 09/052,222, filed on Mar. 31, 1998. The entire disclosure of the aforementioned application is incorporated herein by reference.

PGPUB-DOCUMENT-NUMBER: 20020045194

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020045194 A1

TITLE: Proteomic analysis

PUBLICATION-DATE: April 18, 2002

US-CL-CURRENT: 435/7.9

APPL-NO: 09/ 738954

DATE FILED: December 15, 2000

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60195954 20000410 US
non-provisional-of-provisional 60212891 20000620 US
non-provisional-of-provisional 60222532 20000802 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. .sctn. 119(e)(1) to U.S. provisional applications Ser. Nos. 60/195,954, filed Apr. 10, 2000; 60/212,891, filed Jun. 20, 2000; and 60/222,532, filed Aug. 2, 2000, all of which are herein incorporated by reference in their entirety.

PGPUB-DOCUMENT-NUMBER: 20020042119

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020042119 A1

TITLE: Novel Metalloproteinases

PUBLICATION-DATE: April 11, 2002

US-CL-CURRENT: 435/219,435/320.1 ,435/325 ,435/69.1 ,536/23.2

APPL-NO: 09/ 950688

DATE FILED: September 13, 2001

RELATED-US-APPL-DATA:

child 09950688 A1 20010913 parent division-of 09372154 19990811 US GRANTED parent-patent 6312937 US child 09372154 19990811 US parent division-of 09009156 19980120 US GRANTED parent-patent 6046031 US non-provisional-of-provisional 60034205 19970121 US non-provisional-of-provisional 60049607 19970613 US non-provisional-of-provisional 60054541 19970801 US

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a Divisional of and claims priority under 35 U.S.C. .sctn. 120 to U.S. application Ser. No. 09/372,154, filed Aug. 11, 1999, allowed, which is a Divisional of, claiming priority under 35 U.S.C. .sctn. 120 to, U.S. application Ser. No. 09/009,156, filed Jan. 20, 1998, that issued as U.S. Pat. No. 6,046,031 on Apr. 4, 2000, which claims priority under 35 U.S.C. .sctn.119(e) to U.S. Provisional Applications Serial Nos: 60/034,205, filed Jan. 21, 1997, 60/049,607, filed Jun. 13, 1997 and 60/054,541, filed Aug. 1, 1997, all of which are incorporated herein by reference in their entireties.

PGPUB-DOCUMENT-NUMBER: 20020037916

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020037916 A1

TITLE: Inhibitors of matrix metallaproteinases

PUBLICATION-DATE: March 28, 2002

US-CL-CURRENT: 514/430,514/475 ,549/554 ,549/90

APPL-NO: 09/ 870403

DATE FILED: October 3, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60207874 20000530 US
non-provisional-of-provisional 60226858 20000822 US

RELATED APPLICATION

[0001] The present application claims priority under 35 U.S.C. 119 to U.S. Provisional Application Ser. No. 60/207,874; filed May 30, 2000 and U.S. Provisional Application Ser. No. 60/226,858; filed August 22, 2000; which applications are incorporated herein by reference.

PGPUB-DOCUMENT-NUMBER: 20020037827

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020037827 A1

TITLE: Novel matrix metalloproteinase (MMP-25) expressed in skin cells

PUBLICATION-DATE: March 28, 2002

US-CL-CURRENT: 514/1,435/226 ,435/325 ,435/69.1 ,536/23.2 ,800/8

APPL-NO: 09/ 801196

DATE FILED: March 6, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60187196 20000306 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to pending U.S. patent application No. 60/187,196 filed Mar. 6, 2000 which is incorporated by reference herein in its entirety.

PGPUB-DOCUMENT-NUMBER: 20020025510

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020025510 A1

TITLE: Screening methods based on superactivated alpha V beta 3 integrin

PUBLICATION-DATE: February 28, 2002

US-CL-CURRENT: 435/4,435/226 ,435/6

APPL-NO: 09/ 916658

DATE FILED: July 26, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60220706 20000726 US

PGPUB-DOCUMENT-NUMBER: 20020010405

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020010405 A1

TITLE: Devices, methods and systems for collecting material from a breast duct

PUBLICATION-DATE: January 24, 2002

US-CL-CURRENT: 600/573,600/581 ,600/582

APPL-NO: 09/ 907931

DATE FILED: July 19, 2001

RELATED-US-APPL-DATA:

child 09907931 A1 20010719 parent division-of 09473510 19991228 US PENDING
non-provisional-of-provisional 60114048 19981228 US
non-provisional-of-provisional 60134613 19990518 US
non-provisional-of-provisional 60143476 19990712 US
non-provisional-of-provisional 60143359 19990712 US
non-provisional-of-provisional 60170997 19991214 US

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application claims the benefit of each of the following provisional applications under 37 CFR .sctn.1.78: No. 60/114,048, filed on Dec. 28, 1998; No. 60/134,613, filed on May 18, 1999; No. 60/143,476, filed on Jul. 12, 1999; No. 60/143,359, filed on Jul. 12, 1999; and No. 60/_____ (attorney docket no. 18612-003100), filed on Dec. 14, 1999. The full disclosures of each these applications are incorporated herein by reference.

PGPUB-DOCUMENT-NUMBER: 20020002343

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020002343 A1

TITLE: Devices, methods and systems for collecting material from a breast duct

PUBLICATION-DATE: January 3, 2002

US-CL-CURRENT: 600/573

APPL-NO: 09/ 907581

DATE FILED: July 19, 2001

RELATED-US-APPL-DATA:

child 09907581 A1 20010719 parent division-of 09473510 19991228 US PENDING
non-provisional-of-provisional 60114048 19981228 US
non-provisional-of-provisional 60134613 19990518 US
non-provisional-of-provisional 60143476 19990712 US
non-provisional-of-provisional 60143359 19990712 US
non-provisional-of-provisional 60170997 19991214 US

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application claims the benefit of each of the following provisional applications under 37 CFR .sctn.1.78: No. 60/114,048, filed on Dec. 28, 1998; No. 60/134,613, filed on May 18, 1999; No. 60/143,476, filed on Jul. 12, 1999; No. 60/143,359, filed on Jul. 12, 1999; and No. 60/_____ (attorney docket no. 18612-003100), filed on Dec. 14, 1999. The fill disclosures of each these applications are incorporated herein by reference.

PGPUB-DOCUMENT-NUMBER: 20010055804

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010055804 A1

TITLE: Three-dimensional in vitro model of human preneoplastic breast disease

PUBLICATION-DATE: December 27, 2001

US-CL-CURRENT: 435/354,435/371

APPL-NO: 09/ 759365

DATE FILED: January 16, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60175962 20000113 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of U.S. Provisional Application 60/175,962, filed Jan. 13, 2000, which is incorporated herein by reference.

PGPUB-DOCUMENT-NUMBER: 20010031731

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010031731 A1

TITLE: Free radical scavengers or promoters thereof as therapeutic adjuvants in preterm parturition

PUBLICATION-DATE: October 18, 2001

US-CL-CURRENT: 514/18,424/94.4 ,514/262.1 ,514/458 ,514/474

APPL-NO: 09/ 765476

DATE FILED: January 18, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60176575 20000118 US

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Priority is claimed from provisional application U.S. Ser. No. 60/176,575 filed on Jan. 18, 2000, and incorporated by reference herein.

PGPUB-DOCUMENT-NUMBER: 20010016333

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010016333 A1

TITLE: Novel protein and monoclonal antibody specific thereto

PUBLICATION-DATE: August 23, 2001

US-CL-CURRENT: 435/69.1,435/320.1 ,435/70.1 ,530/324 ,536/23.5

APPL-NO: 09/ 734002

DATE FILED: December 12, 2000

RELATED-US-APPL-DATA:

child 09734002 A1 20001212 parent division-of 09000041 19980220 US GRANTED
parent-patent 6191255 US child 09000041 19980220 US parent
a-371-of-international PCT/JP96/01956 19960712 WO UNKNOWN

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	7-200319	1995JP-7-200319	July 14, 1995
JP	7-200320	1995JP-7-200320	July 14, 1995

PGPUB-DOCUMENT-NUMBER: 20010000513

PGPUB-FILING-TYPE: new-utility

DOCUMENT-IDENTIFIER: US 20010000513 A1

TITLE: Biphenyl butyric acids and their derivatives as inhibitors of matrix metalloproteinases

PUBLICATION-DATE: April 26, 2001

US-CL-CURRENT: 514/525,514/535 ,514/619 ,558/414 ,560/43 ,564/171

APPL-NO: 09/ 736802

DATE FILED: December 14, 2000

RELATED-US-APPL-DATA:

child 09736802 A1 20001214 parent division-of 09254231 19990302 US PENDING
non-provisional-of-provisional 60025814 19960904 US
non-provisional-of-provisional 60027138 19961002 US

US-PAT-NO: 6455570
DOCUMENT-IDENTIFIER: US 6455570 B1

TITLE: Polypyrrolinone based inhibitors of matrix metalloproteases

DATE-ISSUED: September 24, 2002

US-CL-CURRENT: 514/422; 548/519

APPL-NO: 09/ 973493

DATE FILED: October 9, 2001

PARENT-CASE:

CROSS-REFERENCE TO PRIOR APPLICATIONS This application claims the benefit of the following provisional application: U.S. Ser. No. 60/238,375 filed Oct. 6, 2000.

US-PAT-NO: 6451599
DOCUMENT-IDENTIFIER: US 6451599 B1

TITLE: Monoclonal antibodies reactive with fibrin (ogen) degradation products generated by matrix metalloproteinases

DATE-ISSUED: September 17, 2002

US-CL-CURRENT: 435/337; 435/13 ; 435/69.1 ; 435/7.1 ; 435/7.24 ; 435/7.92 ; 435/70.21 ; 436/172 ; 436/514 ; 436/516 ; 436/518 ; 436/524 ; 436/528 ; 436/529 ; 436/530 ; 436/531 ; 436/534 ; 436/536 ; 436/538 ; 436/548 ; 530/387.3 ; 530/388.25 ; 530/391.1 ; 530/391.3

APPL-NO: 09/ 548895

DATE FILED: April 13, 2000

PARENT-CASE:

This application claims the benefit of the filing date of U.S. provisional application Serial No. 60/129,789 filed Apr. 16, 1999, the entire text of which is hereby incorporated by reference.

US-PAT-NO: 6448278
DOCUMENT-IDENTIFIER: US 6448278 B2

TITLE: Procollagen C-proteinase inhibitors

DATE-ISSUED: September 10, 2002

US-CL-CURRENT: 514/364; 514/376 ; 548/131 ; 548/236

APPL-NO: 09/ 735968

DATE FILED: December 13, 2000

PARENT-CASE:

This application claims priority from Great Britain Application No. GB 9930570.8 filed Dec. 23, 1999, and U.S. Provisional Application Ser. No. 60/180,527, filed Feb. 7, 2000.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9930570	December 23, 1999

US-PAT-NO: 6448058
DOCUMENT-IDENTIFIER: US 6448058 B1

TITLE: Methods for solid phase synthesis of mercapto compounds and derivatives, combinatorial libraries thereof and compositions obtained thereby

DATE-ISSUED: September 10, 2002

US-CL-CURRENT: 435/197

APPL-NO: 09/ 151608

DATE FILED: September 11, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application claims priority benefit of co-pending U.S. provisional patent application No. 60/058,744 filed Sep. 12, 1997. The content of that application is hereby incorporated by reference herein in its entirety.

US-PAT-NO: 6429232
DOCUMENT-IDENTIFIER: US 6429232 B1

TITLE: Method of treating atherosclerosis or restenosis using microtubule stabilizing agent

DATE-ISSUED: August 6, 2002

US-CL-CURRENT: 514/449

APPL-NO: 08/ 821906

DATE FILED: March 21, 1997

PARENT-CASE:

This is a continuation of application Ser. No. 08/633,185, filed Apr. 18, 1996 now U.S. Pat. No. 5,616,608, which is a continuation of prior application Ser. No. 08/099,067, filed Jul. 29, 1993 now abandoned.

US-PAT-NO: 6429204
DOCUMENT-IDENTIFIER: US 6429204 B1

TITLE: Method of inhibiting cancer growth

DATE-ISSUED: August 6, 2002

US-CL-CURRENT: 514/152; 514/153

APPL-NO: 09/ 542402

DATE FILED: April 3, 2000

PARENT-CASE:

This is a continuation-in-part of U.S. application Ser. No. 09/007,645, filed on Jan. 15, 1998, now U.S. Pat. No. 6,100,248, which is a continuation-in-part of U.S. application Ser. No. 08/783,655, filed on Jan. 15, 1997, now U.S. Pat. No. 5,837,696 both of which are incorporated herein by reference.

US-PAT-NO: 6420408
DOCUMENT-IDENTIFIER: US 6420408 B1

TITLE: Tricyclic sulfonamides and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: July 16, 2002

US-CL-CURRENT: 514/389; 514/392 ; 514/414 ; 514/468 ; 548/311.4 ; 548/454 ; 549/458 ; 549/461

APPL-NO: 09/ 719027

DATE FILED: April 10, 2001

PARENT-CASE:

This application is a 371 of PCT/US99/12273 filed Jun. 2, 1999 which claims the benefit of U.S. Provisional No. 60/095,006 filed Jul. 30, 1998.

US-PAT-NO: 6420119
DOCUMENT-IDENTIFIER: US 6420119 B1

TITLE: Methods of diagnosing and treating urinary incontinence relating to collagen proteolysis in pelvic supporting tissue

DATE-ISSUED: July 16, 2002

US-CL-CURRENT: 435/6; 435/7.1 ; 435/91.2 ; 514/2

APPL-NO: 09/ 689291

DATE FILED: October 11, 2000

PARENT-CASE:

CROSS-REFERENCE TO PRIOR APPLICATIONS This application claims the benefit of priority to U.S. Provisional application No. 60/158,923, filed Oct. 12, 1999.

US-PAT-NO: 6413734
DOCUMENT-IDENTIFIER: US 6413734 B1

TITLE: Method for judging effectiveness of drug having protease inhibitory activity

DATE-ISSUED: July 2, 2002

US-CL-CURRENT: 435/23; 424/9.2 ; 435/24 ; 435/4 ; 435/968

APPL-NO: 09/ 641349

DATE FILED: August 18, 2000

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	11-231424	August 18, 1999

US-PAT-NO: 6413228
DOCUMENT-IDENTIFIER: US 6413228 B1

TITLE: Devices, methods and systems for collecting material from a breast duct

DATE-ISSUED: July 2, 2002

US-CL-CURRENT: 600/562; 435/7.23 ; 600/573 ; 604/28

APPL-NO: 09/ 473510

DATE FILED: December 28, 1999

PARENT-CASE:

CROSS-REFERENCES TO RELATED APPLICATIONS This application claims the benefit of each of the following provisional applications under 37 CFR .sctn.1.78: Ser. No. 60/114,048, filed on Dec. 28, 1998; Ser. No. 60/134,613, filed on May 18, 1999; Ser. No. 60/143,476, filed on Jul. 12, 1999; Ser. No. 60/143,359, filed on Jul. 12, 1999; and Ser. No. 60/170,997, filed on Dec. 14, 1999. The full disclosures of each these applications are incorporated herein by reference.

US-PAT-NO: 6410580
DOCUMENT-IDENTIFIER: US 6410580 B1

TITLE: Sulfonylamino derivatives which inhibit matrix-degrading metalloproteinases

DATE-ISSUED: June 25, 2002

US-CL-CURRENT: 514/373; 514/444 ; 514/471 ; 548/210 ; 549/476 ; 549/59

APPL-NO: 09/ 601462

DATE FILED: August 2, 2000

PCT-DATA:
APPL-NO: PCT/EP99/00646
DATE-FILED: February 2, 1999
PUB-NO: WO99/42443
PUB-DATE: Aug 26, 1999
371-DATE: Aug 2, 2000
102(E)-DATE: Aug 2, 2000

US-PAT-NO: 6403635
DOCUMENT-IDENTIFIER: US 6403635 B1

TITLE: Method of treating atherosclerosis or restenosis using microtubule stabilizing agent

DATE-ISSUED: June 11, 2002

US-CL-CURRENT: 514/449; 206/569 ; 206/570 ; 514/824 ; 549/510 ; 549/511 ; 604/93.01

APPL-NO: 09/ 641549

DATE FILED: August 17, 2000

PARENT-CASE:

This is a continuation application of U.S. application Ser. No. 08/821,906 filed Mar. 21, 1997, which is a continuation of 08/633,185 filed Apr. 18, 1996, now U.S. Pat. No. 5,616,608, which is a continuation of U.S. Ser. No. 08/099,067 filed Jul. 29, 1993 now abandoned.

US-PAT-NO: 6399612
DOCUMENT-IDENTIFIER: US 6399612 B1

TITLE: Heteroaryl butyric acids and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: June 4, 2002

US-CL-CURRENT: 514/252.01; 514/231.5 ; 514/29 ; 514/396 ; 514/403 ; 514/438 ; 514/461 ; 514/549 ; 514/72 ; 514/73

APPL-NO: 09/ 647400

DATE FILED: October 23, 2000

PARENT-CASE:

This application claims priority from provisional application Ser. No. 60/061,012, filed Oct. 6, 1997.

PCT-DATA:
APPL-NO: PCT/US98/19875
DATE-FILED: September 23, 1998
PUB-NO: WO99/18079
PUB-DATE: Apr 15, 1999
371-DATE: Oct 23, 2000
102(E)-DATE: Oct 23, 2000

US-PAT-NO: 6399371
DOCUMENT-IDENTIFIER: US 6399371 B1

TITLE: Human matrix metalloprotease gene, proteins encoded therefrom and methods of using same

DATE-ISSUED: June 4, 2002

US-CL-CURRENT: 435/325; 435/219 ; 435/226 ; 435/252.33 ; 435/320.1 ; 536/23.1 ; 536/23.2 ; 536/23.5

APPL-NO: 09/ 391104

DATE FILED: September 7, 1999

PARENT-CASE:

This is a Continuation-in-Part of U.S. application Ser. No. 08/814,394 filed Mar. 11, 1997, now abandoned.

US-PAT-NO: 6399348
DOCUMENT-IDENTIFIER: US 6399348 B1

TITLE: DNA sequences for matrix metalloproteases, their production and use

DATE-ISSUED: June 4, 2002

US-CL-CURRENT: 435/219; 435/226 ; 435/252.3 ; 435/252.33 ; 435/254.11 ; 435/320.1 ; 435/325 ; 536/23.2 ; 536/23.5

APPL-NO: 09/ 521220

DATE FILED: March 8, 2000

PARENT-CASE:

This application is a continuation of Ser. No. 08/704,711 filed Nov. 20, 1996, now U.S. Pat. No. 6,114,159 which is a 371 of PCT/DE95/00357 filed Mar. 17, 1995.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	44 09 663	March 17, 1994
DE	44 38 838	October 21, 1994

US-PAT-NO: 6395889
DOCUMENT-IDENTIFIER: US 6395889 B1

TITLE: Nucleic acid molecules encoding human protease homologs

DATE-ISSUED: May 28, 2002

US-CL-CURRENT: 536/23.2; 435/252.3 ; 435/320.1 ; 435/69.1 ; 536/23.5

APPL-NO: 09/ 392184

DATE FILED: September 9, 1999

US-PAT-NO: 6391853
DOCUMENT-IDENTIFIER: US 6391853 B1

TITLE: Human tissue inhibitor of metalloproteinase-4

DATE-ISSUED: May 21, 2002

US-CL-CURRENT: 514/12; 435/226

APPL-NO: 09/ 262087

DATE FILED: March 4, 1999

PARENT-CASE:

This application is a Divisional of and claims priority under 35 U.S.C. section 120 to patent application Ser. No. 08/463,261, filed Jun. 5, 1995, pending, which is a continuation U.S. patent application Ser. No. PCT US94/14498 filed Dec. 13, 1994, both of which are incorporated herein by reference in their entireties.

US-PAT-NO: 6391280
DOCUMENT-IDENTIFIER: US 6391280 B1

TITLE: J chain polypeptide targeting molecule linked to an imaging agent

DATE-ISSUED: May 21, 2002

US-CL-CURRENT: 424/9.1; 424/9.34 ; 424/9.341 ; 424/94.1 ; 435/174 ; 435/177 ; 435/4 ; 530/402 ; 530/810

APPL-NO: 09/ 005167

DATE FILED: January 9, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application is a continuation-in-part of U.S. Pat. application Ser. No. 08/782,480, filed Jan. 10, 1997, now U.S. Pat. No. 6,045,774.

US-PAT-NO: 6375970
DOCUMENT-IDENTIFIER: US 6375970 B1

TITLE: Methods and materials for preterm birth prevention

DATE-ISSUED: April 23, 2002

US-CL-CURRENT: 424/422; 424/78.08 ; 428/500 ; 524/916 ; 604/48

APPL-NO: 09/ 348873

DATE FILED: July 7, 1999

US-PAT-NO: 6350885
DOCUMENT-IDENTIFIER: US 6350885 B1

TITLE: Tricyclic heteroaromatics and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: February 26, 2002

US-CL-CURRENT: 549/460; 549/461

APPL-NO: 09/ 719026

DATE FILED: February 20, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION The instant application is a 371 application of PCT/US99/12272 filed Jun. 2, 1999 which claims the benefit of provisional application 60/094,705, filed Jul. 30, 1998.

PCT-DATA:
APPL-NO: PCT/US99/12272
DATE-FILED: June 2, 1999
PUB-NO: WO00/06560
PUB-DATE: Feb 10, 2000
371-DATE: Feb 20, 2001
102(E)-DATE: Feb 20, 2001

US-PAT-NO: 6312937
DOCUMENT-IDENTIFIER: US 6312937 B1

TITLE: Metalloproteinases

DATE-ISSUED: November 6, 2001

US-CL-CURRENT: 435/219; 435/212 ; 435/226

APPL-NO: 09/ 372154

DATE FILED: August 11, 1999

PARENT-CASE:

This application is a Divisional of and claims priority under 35 U.S.C. section 120 to U.S. Application Ser. No. 09/009,156, filed Jan. 20, 1998, now U.S. Pat. No. 6,046,031, which claims priority under 35 U.S.C. .sctn.119(e) to U.S. Provisional Applications Serial No: 60/034,205, filed Jan. 21, 1997, Ser. No. 60/049,607, filed Jun. 13, 1997 and Ser. No. 60/054,541, filed Aug. 1, 1997, all of which are incorporated herein by reference in their entireties.

US-PAT-NO: 6307101
DOCUMENT-IDENTIFIER: US 6307101 B1

TITLE: Inhibitors of metalloproteases, pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: October 23, 2001

US-CL-CURRENT: 564/154; 544/159 ; 546/309

APPL-NO: 09/ 271801

DATE FILED: March 17, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a 1.53(b) continuation of U.S. application Ser. No. 09/081,466 filed May 19, 1998 (now U.S. Pat. No. 5,929,278), which is a 1.53(b) continuation of U.S. application Ser. No. 08/549,345 filed Oct. 27, 1995 (now U.S. Pat. No. 5,831,004), which is a continuation-in-part of U.S. patent application Ser. No. 08/484,255 filed Jun. 7, 1995 (now abandoned) which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/329,420, filed Oct. 27, 1994, (now abandoned) which disclosures are incorporated herein by reference in their entirety.

US-PAT-NO: 6307089
DOCUMENT-IDENTIFIER: US 6307089 B1

TITLE: Biphenyl butyric acids and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: October 23, 2001

US-CL-CURRENT: 560/51; 560/59 ; 562/459 ; 562/468

APPL-NO: 09/ 736802

DATE FILED: December 14, 2000

PARENT-CASE:

This application is a divisional of application Ser. No. 09/254,231, filed Mar. 2, 1999, now U.S. Pat. No. 6,239,288, which is a .sctn. 371 of PCT/US97/14852 of Aug. 22, 1997, which claims priority to provisional applications: 60/054,905 of Aug. 26, 1997, 60/027,138 of Oct. 2, 1996, and 60/025,814 of Sep. 4, 1996, which application(s) are incorporated hereby by reference.

US-PAT-NO: 6297247
DOCUMENT-IDENTIFIER: US 6297247 B1

TITLE: Sulfonamide inhibitors of matrix metalloproteinases

DATE-ISSUED: October 2, 2001

US-CL-CURRENT: 514/255.03; 514/252.12 ; 514/252.13 ; 514/254.09 ; 514/323 ; 514/326 ; 514/331

APPL-NO: 09/ 599306

DATE FILED: June 22, 2000

PARENT-CASE:

This is a division of U.S. Ser. No. 09/412,707, Oct. 5, 1999 now U.S. Pat. No. 6,153,612, which is a division of U.S. Ser. No. 09/068,726, now U.S. Pat. No. 5,977,141, which is a 371 of PCT/US96/16761 filed Oct. 18, 1996, which claims priority from Provisional Application No. 60/007,372 filed Nov. 17, 1995.

US-PAT-NO: 6294674
DOCUMENT-IDENTIFIER: US 6294674 B1

TITLE: Dibenzofuran sulfonamide matrix metalloproteinase inhibitors

DATE-ISSUED: September 25, 2001

US-CL-CURRENT: 546/284.1; 548/195 ; 548/451 ; 548/454 ; 548/525 ; 549/435 ; 549/460 ; 549/60

APPL-NO: 09/ 254403

DATE FILED: March 2, 1999

PARENT-CASE:

This application is a 371 of PCT/US97/15444 filed Sep. 2, 1997 which claims the benefit of U.S. Provisional Application No. 60/025,063 filed Sep. 4, 1996 and U.S. Ser. No. 60/055,714 filed Aug. 7, 1997.

PCT-DATA:
APPL-NO: PCT/US97/15444
DATE-FILED: September 2, 1997
PUB-NO: WO98/09957
PUB-DATE: Mar 12, 1998
371-DATE: Mar 2, 1999
102(E)-DATE: Mar 2, 1999

US-PAT-NO: 6277987
DOCUMENT-IDENTIFIER: US 6277987 B1

TITLE: Sulfonylamino acid and sulfonylamino hydroxamic acid derivatives

DATE-ISSUED: August 21, 2001

US-CL-CURRENT: 544/285; 548/209 ; 548/317.1 ; 548/477

APPL-NO: 09/ 243854

DATE FILED: February 3, 1999

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application claims the benefit of provisional application No. 60/135,514 (converted from application Ser. No. 09/018,819) filed Feb. 4, 1998, which is incorporated herein by reference.

US-PAT-NO: 6277061
DOCUMENT-IDENTIFIER: US 6277061 B1

TITLE: Method of inhibiting **membrane-type matrix metalloproteinase**

DATE-ISSUED: August 21, 2001

US-CL-CURRENT: 514/152

APPL-NO: 09/ 052222

DATE FILED: March 31, 1998

US-PAT-NO: 6274717
DOCUMENT-IDENTIFIER: US 6274717 B1

TITLE: Splicing variant of human membrane-type matrix metalloproteinase-5 (MT-MMP5-L)

DATE-ISSUED: August 14, 2001

US-CL-CURRENT: 536/23.2; 536/23.1 ; 536/23.5

APPL-NO: 09/ 294841

DATE FILED: April 20, 1999

US-PAT-NO: 6271014
DOCUMENT-IDENTIFIER: US 6271014 B1

TITLE: Mammalian proteinases; related reagents and methods

DATE-ISSUED: August 7, 2001

US-CL-CURRENT: 435/226; 435/189 ; 435/219 ; 530/350 ; 536/23.2

APPL-NO: 09/ 211704

DATE FILED: December 14, 1998

PARENT-CASE:

This filing is a continuation application of commonly assigned, U.S. Pat. No. 09/005,263, filed Jan. 9, 1998, now abandoned, which is incorporated herein by reference.

US-PAT-NO: 6265432
DOCUMENT-IDENTIFIER: US 6265432 B1

TITLE: Flourine-substituted biphenyl butyric acids and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: July 24, 2001

US-CL-CURRENT: 514/417; 514/522 ; 514/532 ; 514/553 ; 514/561 ; 548/477 ; 560/27 ; 560/35 ; 562/26 ; 562/426 ; 562/440

APPL-NO: 09/ 503235

DATE FILED: February 11, 2000

PARENT-CASE:

This application is a Divisional of application Ser. No. 09/256,714, filed Feb. 24, 1999, now U.S. Pat. No. 6,169,103 which claims benefit from Provisional application Ser. No. 60/076,633 filed Mar. 3, 1998, which application(s) are incorporated herein by reference.

US-PAT-NO: 6264949
DOCUMENT-IDENTIFIER: US 6264949 B1

TITLE: Noninvasive agents for diagnosis and prognosis of the progression of fibrosis

DATE-ISSUED: July 24, 2001

US-CL-CURRENT: 424/133.1; 424/1.49 ; 424/1.69 ; 424/134.1 ; 424/142.1 ; 424/143.1 ; 424/178.1 ; 424/9.1 ; 424/9.34 ; 424/9.4 ; 424/9.6 ; 435/7.21 ; 514/2

APPL-NO: 09/ 406641

DATE FILED: September 27, 1999

PARENT-CASE:

This application is entitled to and claims priority benefit of application Ser. No. 60/102,232 filed Sep. 29, 1998, the entire disclosure of which is incorporated herein by reference.

US-PAT-NO: 6239288
DOCUMENT-IDENTIFIER: US 6239288 B1

TITLE: Biphenyl hydroxy imino butyric acids and their derivatives for treating arthritis

DATE-ISSUED: May 29, 2001

US-CL-CURRENT: 548/469; 548/477 ; 558/422 ; 560/30 ; 562/26 ; 562/440

APPL-NO: 09/ 254231

DATE FILED: March 2, 1999

PARENT-CASE:

this application is a 371 of PCT/US97/14852 filed Aug. 22, 1997 which benefit is claimed of Provisional Application Ser. Nos. 60/025,814, 60/027,138 and 60/054,905 filed Sep. 4, 1996, Oct. 2, 1996, and Aug. 6, 1997, respectively.

US-PAT-NO: 6235727
DOCUMENT-IDENTIFIER: US 6235727 B1

TITLE: Sulfonylaminophosphinic and sulfonylaminophosphinic acid derivatives, methods for their preparation and use

DATE-ISSUED: May 22, 2001

US-CL-CURRENT: 514/80; 514/117 ; 514/125 ; 514/128 ; 514/91 ; 548/413 ; 548/414 ; 558/169 ; 558/170 ; 568/15 ; 568/16 ; 568/17

APPL-NO: 09/ 353086

DATE FILED: July 15, 1999

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	198 31 980	July 16, 1998
DE	199 21 680	May 12, 1999

US-PAT-NO: 6214600
DOCUMENT-IDENTIFIER: US 6214600 B1

TITLE: **Membrane-type matrix metalloproteinase**-5 gene

DATE-ISSUED: April 10, 2001

US-CL-CURRENT: 435/226

APPL-NO: 09/ 090673

DATE FILED: June 4, 1998

PARENT-CASE:

This application is a division of application Ser. No. 08/816,755, filed Mar. 6. 1997 now U.S. Pat. N. 5,837,508.

US-PAT-NO: 6201133
DOCUMENT-IDENTIFIER: US 6201133 B1

TITLE: Certain cyclic thio substituted acylaminoacid amide derivatives

DATE-ISSUED: March 13, 2001

US-CL-CURRENT: 549/13; 544/168 ; 546/224 ; 546/245 ; 546/309 ; 548/537 ; 548/557 ; 548/966 ; 549/346 ; 549/425 ; 549/487 ; 549/512 ; 549/72 ; 549/88 ; 549/9 ; 564/153 ; 564/154

APPL-NO: 09/ 435550

DATE FILED: November 8, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a divisional application of application Ser. No. 09/040,093 filed Mar. 17, 1998 now U.S. Pat. No. 6,034,136, claims the benefit of U.S. provisional application Ser. No. 60/039,845, filed Mar. 20, 1997.

US-PAT-NO: 6191255
DOCUMENT-IDENTIFIER: US 6191255 B1

TITLE: Protein and monoclonal antibody specific thereto

DATE-ISSUED: February 20, 2001

US-CL-CURRENT: 530/324; 435/320.1 ; 435/325 ; 435/69.1 ; 530/400 ; 536/23.2 ; 536/23.5 ; 536/24.31

APPL-NO: 09/ 000041

DATE FILED: February 20, 1998

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	7-200319	July 14, 1995
JP	7-200320	July 14, 1995

PCT-DATA:
APPL-NO: PCT/JP96/01956
DATE-FILED: July 12, 1996
PUB-NO: WO97/04080
PUB-DATE: Feb 6, 1997
371-DATE: Feb 20, 1998
102(E)-DATE: Feb 20, 1998

US-PAT-NO: 6184022
DOCUMENT-IDENTIFIER: US 6184022 B1

TITLE: Metalloproteinase and encoding DNA therefor

DATE-ISSUED: February 6, 2001

US-CL-CURRENT: 435/226; 536/23.2

APPL-NO: 08/ 448489

DATE FILED: June 7, 1995

PARENT-CASE:

This application is a continuation-in-part of PCT international application No. PCT/JP94/02009 which has an international filing date of Nov. 30, 1994 which designated the United States, the entire contents of which are hereby incorporated by reference.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-341061	November 30, 1993
JP	7-109884	March 31, 1995

US-PAT-NO: 6180355
DOCUMENT-IDENTIFIER: US 6180355 B1

TITLE: Method for diagnosing and treating chronic pelvic pain syndrome

DATE-ISSUED: January 30, 2001

US-CL-CURRENT: 435/7.1; 435/7.8

APPL-NO: 09/ 306927

DATE FILED: May 7, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application claims benefit of U.S. Provisional Application No. 60/084,668, filed on May 7,1998.

US-PAT-NO: 6169103
DOCUMENT-IDENTIFIER: US 6169103 B1

TITLE: Fluorine-substituted biphenyl butyric acids and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: January 2, 2001

US-CL-CURRENT: 514/389; 514/419 ; 514/522 ; 514/567 ; 548/319.5 ; 548/477 ; 548/494 ; 558/414 ; 560/35 ; 562/492

APPL-NO: 09/ 256714

DATE FILED: February 24, 1999

PARENT-CASE:

This application claims benefit of provisional application Ser. No. 60/076,633 filed Mar. 3, 1998.

US-PAT-NO: 6153612
DOCUMENT-IDENTIFIER: US 6153612 A

TITLE: Sulfonamide inhibitors of matrix metalloproteinases

DATE-ISSUED: November 28, 2000

US-CL-CURRENT: 514/252.12; 514/254.03 ; 514/254.09 ; 514/255.03 ; 544/359 ; 544/392 ; 544/393

APPL-NO: 09/ 412707

DATE FILED: October 5, 1999

PARENT-CASE:

This application is a divisional of Ser. No. 09/068,726 filed May 13, 1998 now U.S. Pat. No. 5,977,141; which is a 371 of PCT/US96/16761 filed Oct. 18, 1996.

US-PAT-NO: 6143730
DOCUMENT-IDENTIFIER: US 6143730 A

TITLE: Preparation and use of sulfated oligosaccharides

DATE-ISSUED: November 7, 2000

US-CL-CURRENT: 514/54; 514/2 ; 514/24 ; 514/25 ; 514/53 ; 514/61 ; 536/109 ; 536/118 ; 536/4.1 ; 536/59

APPL-NO: 08/ 945937

DATE FILED: October 28, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
AU	PN 2618	April 28, 1995

PCT-DATA:
APPL-NO: PCT/AU96/00238
DATE-FILED: April 24, 1996
PUB-NO: WO96/33726
PUB-DATE: Oct 31, 1996
371-DATE: Oct 28, 1997
102(E)-DATE: Oct 28, 1997

US-PAT-NO: 6140099
DOCUMENT-IDENTIFIER: US 6140099 A

TITLE: Method of delaying fetal **membrane rupture by inhibiting matrix metalloproteinase**-9 activity

DATE-ISSUED: October 31, 2000

US-CL-CURRENT: 435/219; 435/267 ; 436/120 ; 436/131 ; 436/65 ; 514/12 ; 514/2 ; 514/21 ; 514/563 ; 514/575

APPL-NO: 08/ 993900

DATE FILED: December 18, 1997

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 08/727,883, filed on Oct. 9, 1996, issued as U.S. Pat. No. 5,698,404, which is a divisional of U.S. application Ser. No. 08/246,814, issued U.S. Pat. No. 5,641,636.

US-PAT-NO: 6117869
DOCUMENT-IDENTIFIER: US 6117869 A

TITLE: Compounds for and methods of inhibiting matrix metalloproteinases

DATE-ISSUED: September 12, 2000

US-CL-CURRENT: 514/227.5; 514/227.8 ; 514/229.8 ; 514/255.05 ; 514/255.06 ; 514/297 ; 514/396 ; 514/415 ; 514/434 ; 514/437 ; 514/452 ; 514/454 ; 544/104 ; 544/347 ; 544/348 ; 544/58.1 ; 546/103 ; 548/335.1 ; 548/504 ; 549/16 ; 549/17 ; 549/27 ; 549/359 ; 549/392 ; 562/427

APPL-NO: 09/ 361077

DATE FILED: July 26, 1999

PARENT-CASE:

This application claims the benefit of U.S. Provisional Application No. 60/095,338 filed Aug. 4, 1998.

US-PAT-NO: 6114159
DOCUMENT-IDENTIFIER: US 6114159 A

TITLE: DNA sequences for matrix metalloproteases, their production and use

DATE-ISSUED: September 5, 2000

US-CL-CURRENT: 435/219; 435/212 ; 435/226 ; 435/252.33 ; 435/320.1 ; 435/325 ; 435/410 ; 536/23.1 ; 536/23.2 ; 536/23.5

APPL-NO: 08/ 704711

DATE FILED: November 20, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	44 09 663	March 17, 1994
DE	44 38 838	October 21, 1994

PCT-DATA:
APPL-NO: PCT/DE95/00357
DATE-FILED: March 17, 1995
PUB-NO: WO95/25171
PUB-DATE: Sep 21, 1995
371-DATE: Nov 20, 1996
102(E)-DATE: Nov 20, 1996

US-PAT-NO: 6110896
DOCUMENT-IDENTIFIER: US 6110896 A

TITLE: Peptidyl compounds and their therapeutic use

DATE-ISSUED: August 29, 2000

US-CL-CURRENT: 514/19; 260/998.2 ; 260/998.21 ; 424/184.1 ; 514/18 ; 530/331 ; 530/868

APPL-NO: 08/ 644797

DATE FILED: May 10, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9509434	May 10, 1995
GB	9525643	December 15, 1995
GB	9607218	April 4, 1996

US-PAT-NO: 6100248
DOCUMENT-IDENTIFIER: US 6100248 A

TITLE: Method of inhibiting cancer growth

DATE-ISSUED: August 8, 2000

US-CL-CURRENT: 514/152; 514/153 ; 514/154

APPL-NO: 09/ 007645

DATE FILED: January 15, 1998

PARENT-CASE:

This is a continuation-in-part of U.S. application Ser. No. 08/783,655, filed on Jan. 15, 1997 now U.S. Pat. No. 5,837,696.

US-PAT-NO: 6066633
DOCUMENT-IDENTIFIER: US 6066633 A

TITLE: Metalloproteinase inhibitors

DATE-ISSUED: May 23, 2000

US-CL-CURRENT: 514/232.8; 514/292 ; 544/126 ; 546/86 ; 546/87

APPL-NO: 09/ 191323

DATE FILED: November 13, 1998

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
FR	97.14278	November 14, 1997

US-PAT-NO: 6046031
DOCUMENT-IDENTIFIER: US 6046031 A

TITLE: Metalloproteinases

DATE-ISSUED: April 4, 2000

US-CL-CURRENT: 435/69.1; 435/219 ; 435/226 ; 435/252.33 ; 435/320.1 ; 435/325 ; 435/69.3 ; 536/23.1 ; 536/23.2 ; 536/23.5

APPL-NO: 09/ 009156

DATE FILED: January 20, 1998

PARENT-CASE:

This application claims benefit of 35 U.S.C. section 119(e) based on copending U.S. Provisional Application Ser. Nos. 60/034,205, filed Jan. 21, 1997, 60/049,607, filed Jun. 13, 1997 and 60/054,541, filed Aug. 1, 1997.

US-PAT-NO: 6045774
DOCUMENT-IDENTIFIER: US 6045774 A

TITLE: J chain polypeptide targeting molecule linked to an imaging agent

DATE-ISSUED: April 4, 2000

US-CL-CURRENT: 424/9.1; 424/9.34 ; 424/9.341 ; 424/94.1 ; 435/174 ; 435/177 ; 435/4 ; 530/402 ; 530/810

APPL-NO: 08/ 782480

DATE FILED: January 10, 1997

US-PAT-NO: 6037361
DOCUMENT-IDENTIFIER: US 6037361 A

TITLE: Fluorinated butyric acids and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: March 14, 2000

US-CL-CURRENT: 514/411; 514/443 ; 514/468 ; 514/613 ; 514/675 ; 514/825 ; 514/885 ; 514/903 ; 548/440 ; 548/448 ; 548/449 ; 548/450 ; 548/512 ; 549/43 ; 549/44 ; 549/460 ; 549/461 ; 549/48 ; 564/189 ; 564/300 ; 568/306 ; 568/326

APPL-NO: 09/ 036751

DATE FILED: March 9, 1998

US-PAT-NO: 6034136
DOCUMENT-IDENTIFIER: US 6034136 A

TITLE: Certain cyclic thio substituted acylaminoacid amide derivatives

DATE-ISSUED: March 7, 2000

US-CL-CURRENT: 514/618; 514/237.5 ; 514/237.8 ; 514/329 ; 514/330 ; 514/357 ; 514/423 ; 544/162 ; 544/165 ; 546/225 ; 546/329 ; 548/530 ; 548/537 ; 564/153 ; 564/154

APPL-NO: 09/ 040093

DATE FILED: March 17, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application claims the benefit of provisional application No. 60/039,845, filed Mar. 20, 1997.

US-PAT-NO: 6008220
DOCUMENT-IDENTIFIER: US 6008220 A

TITLE: Aromatic keto-acids and their derivatives as inhibitors of matrix metalloproteinases

DATE-ISSUED: December 28, 1999

US-CL-CURRENT: 514/252.03; 514/255.05 ; 546/229 ; 546/230 ; 546/231 ; 546/232 ; 546/234 ; 546/235 ; 546/236 ; 546/237 ; 546/239 ; 546/240

APPL-NO: 09/ 077715

DATE FILED: June 8, 1998

PARENT-CASE:

This application is a 371 of PCT/US96/18924 filed Nov. 27, 1996, which claims benefit of U.S. Provisional Application Ser. No. 60/009,489 filed Dec. 22, 1995.

PCT-DATA:
APPL-NO: PCT/US96/18925
DATE-FILED: November 27, 1996
PUB-NO: WO97/23459
PUB-DATE: Jul 3, 1997
371-DATE: Jun 8, 1998
102(E)-DATE: Jun 8, 1998

US-PAT-NO: 5998390
DOCUMENT-IDENTIFIER: US 5998390 A

TITLE: Combination of bisphosphonate and tetracycline

DATE-ISSUED: December 7, 1999

US-CL-CURRENT: 514/94; 424/54 ; 424/57 ; 514/102 ; 514/107 ; 514/108 ; 514/152 ; 514/153 ; 514/154 ; 514/825 ; 514/826 ; 514/866 ; 514/900 ; 514/902 ; 514/903 ; 514/912 ; 514/914 ; 514/925

APPL-NO: 09/ 161804

DATE FILED: September 28, 1998

US-PAT-NO: 5994293
DOCUMENT-IDENTIFIER: US 5994293 A

TITLE: Peptidyl compounds and their therapeutic use

DATE-ISSUED: November 30, 1999

US-CL-CURRENT: 514/2; 260/998.2 ; 424/184.1 ; 424/185.1 ; 514/19 ; 530/331 ; 530/868

APPL-NO: 08/ 644381

DATE FILED: May 10, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9509404	May 10, 1995
GB	9525646	December 15, 1995
GB	9607154	April 4, 1996

US-PAT-NO: 5990112
DOCUMENT-IDENTIFIER: US 5990112 A

TITLE: Inhibitors of metalloproteases pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: November 23, 1999

US-CL-CURRENT: 514/255.02; 514/249 ; 544/231 ; 544/349 ; 544/350 ; 544/385

APPL-NO: 08/ 670713

DATE FILED: June 18, 1996

US-PAT-NO: 5981491
DOCUMENT-IDENTIFIER: US 5981491 A

TITLE: Peptidyl compounds and their therapeutic use

DATE-ISSUED: November 9, 1999

US-CL-CURRENT: 514/19; 260/998.2 ; 424/184.1 ; 424/185.1 ; 514/18 ; 530/331 ; 530/868

APPL-NO: 08/ 776630

DATE FILED: April 7, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9509403	May 10, 1995
GB	9509816	May 10, 1995
GB	9607155	April 4, 1996
GB	9607215	April 4, 1996

PCT-DATA:
APPL-NO: PCT/GB96/01136
DATE-FILED: May 10, 1996
PUB-NO: WO96/35711
PUB-DATE: Nov 14, 1996
371-DATE: Apr 7, 1997
102(E)-DATE: Apr 7, 1997

US-PAT-NO: 5981490
DOCUMENT-IDENTIFIER: US 5981490 A

TITLE: Peptidyl compounds

DATE-ISSUED: November 9, 1999

US-CL-CURRENT: 514/19; 424/184.1 ; 424/185.1 ; 514/18 ; 514/389 ; 530/331 ; 548/301.4 ; 564/153 ; 564/154

APPL-NO: 08/ 725781

DATE FILED: October 4, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9520354	October 5, 1995
GB	9607126	April 4, 1996

US-PAT-NO: 5977141
DOCUMENT-IDENTIFIER: US 5977141 A

TITLE: Sulfonamide inhibitors of matrix metalloproteinases

DATE-ISSUED: November 2, 1999

US-CL-CURRENT: 514/323; 514/254.08 ; 514/254.09 ; 514/255.03 ; 514/331 ; 544/373 ; 544/392 ; 544/393 ; 546/201 ; 546/205 ; 546/230 ; 546/232 ; 546/233 ; 546/234 ; 546/235

APPL-NO: 09/ 068726

DATE FILED: May 13, 1998

PARENT-CASE:

This application is based upon PCT application Ser. No. PCT/US96/16761, filed Oct. 18, 1996, which claims priority from U.S. Provisional Patent Application Ser. No. 60/007,372, filed Nov. 17, 1995.

PCT-DATA:
APPL-NO: PCT/US96/16761
DATE-FILED: October 18, 1996
PUB-NO: WO97/19068
PUB-DATE: May 8, 1997
371-DATE: May 13, 1996
102(E)-DATE: May 13, 1996

US-PAT-NO: 5958972
DOCUMENT-IDENTIFIER: US 5958972 A

TITLE: Tricyclic inhibitors of matrix metalloproteinases

DATE-ISSUED: September 28, 1999

US-CL-CURRENT: 514/529; 514/290 ; 514/292 ; 514/577 ; 546/111 ; 546/85 ; 546/86 ; 546/87 ; 560/55 ; 560/56 ; 562/466

APPL-NO: 08/ 859437

DATE FILED: May 20, 1997

PARENT-CASE:

This application is a division of application Ser. No. 08/460,436 filed Jun. 2, 1995 which application is now U.S. Pat. No. 5,665,764.

US-PAT-NO: 5952200
DOCUMENT-IDENTIFIER: US 5952200 A

TITLE: Method of diagnosing cancer in human cells using a reverse transcriptase-polymerase chain reaction for identifying the presence of stromelysin-3

DATE-ISSUED: September 14, 1999

US-CL-CURRENT: 435/91.2; 435/6 ; 435/91.21 ; 435/91.51 ; 536/23.1 ; 536/24.3 ; 536/24.31 ; 536/24.33

APPL-NO: 08/ 796362

DATE FILED: February 6, 1997

US-PAT-NO: 5929278
DOCUMENT-IDENTIFIER: US 5929278 A

TITLE: Inhibitors of metalloproteases, pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: July 27, 1999

US-CL-CURRENT: 564/154; 544/159 ; 546/309

APPL-NO: 09/ 081466

DATE FILED: May 19, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation of 08/549,345 filed Oct. 27, 1995 now U.S. Pat. No. 5,831,004 which is a continuation-in-part of U.S. patent application Ser. No. 08/484,255 filed Jun. 7, 1995 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/329,420, filed Oct. 27, 1994 now abandoned, which disclosures are incorporated herein by reference in their entirety.

US-PAT-NO: 5874290
DOCUMENT-IDENTIFIER: US 5874290 A

TITLE: Nucleotide and amino acid sequences of a D2-2 gene associated with brain tumors and methods based thereon

DATE-ISSUED: February 23, 1999

US-CL-CURRENT: 435/252.33; 435/252.3 ; 435/320.1 ; 514/12 ; 530/300 ; 536/23.1 ; 536/23.5

APPL-NO: 08/ 747121

DATE FILED: November 8, 1996

US-PAT-NO: 5837696
DOCUMENT-IDENTIFIER: US 5837696 A

TITLE: Method of inhibiting cancer growth

DATE-ISSUED: November 17, 1998

US-CL-CURRENT: 514/152; 514/153 ; 514/154

APPL-NO: 08/ 783655

DATE FILED: January 15, 1997

US-PAT-NO: 5837508
DOCUMENT-IDENTIFIER: US 5837508 A

TITLE: **Membrane-type matrix metalloproteinase**-5 gene

DATE-ISSUED: November 17, 1998

US-CL-CURRENT: 435/455; 435/226 ; 435/252.3 ; 435/471 ; 536/23.2

APPL-NO: 08/ 816755

DATE FILED: March 6, 1997

US-PAT-NO: 5831004
DOCUMENT-IDENTIFIER: US 5831004 A

TITLE: Inhibitors of metalloproteases, pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: November 3, 1998

US-CL-CURRENT: 530/331; 544/159 ; 546/309 ; 564/154

APPL-NO: 08/ 549345

DATE FILED: October 27, 1995

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. patent application Ser. No. 08/484,255 filed Jun. 7, 1995 now abandoned, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/329,420, filed Oct. 27, 1994, now abandoned, which disclosures are incorporated herein by reference in their entirety.

US-PAT-NO: 5726015
DOCUMENT-IDENTIFIER: US 5726015 A

TITLE: Method to determine metastatic potential of tumor cells

DATE-ISSUED: March 10, 1998

US-CL-CURRENT: 435/6; 536/23.5

APPL-NO: 08/ 371082

DATE FILED: January 10, 1995

PARENT-CASE:

RELATED APPLICATIONS This application is a Continuation of application Ser. No. 08/061,827 filed May 17, 1993, now abandoned, which is a Continuation of application Ser. No. 07/700,505 filed May 15, 1991, now abandoned.

US-PAT-NO: 5698706
DOCUMENT-IDENTIFIER: US 5698706 A

TITLE: Heterocyclic amides and methods of use

DATE-ISSUED: December 16, 1997

US-CL-CURRENT: 548/314.7

APPL-NO: 08/ 644802

DATE FILED: May 10, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9509432	May 10, 1995
GB	9525644	December 15, 1995
GB	9607256	April 4, 1996

US-PAT-NO: 5698404
DOCUMENT-IDENTIFIER: US 5698404 A

TITLE: Method of predicting fetal **membrane rupture based on pro-matrix metalloproteinase**-9 (pro-mmp-9)

DATE-ISSUED: December 16, 1997

US-CL-CURRENT: 435/7.4; 435/18 ; 435/23 ; 435/24 ; 436/518 ; 436/530 ; 436/531

APPL-NO: 08/ 727883

DATE FILED: October 9, 1996

PARENT-CASE:

This is a continuation of application Ser. No. 08/246,814 filed May 20,1994, now U.S. Pat. No. 5,641,636.

US-PAT-NO: 5665764
DOCUMENT-IDENTIFIER: US 5665764 A

TITLE: Tricyclic inhibitors of matrix metalloproteinases

DATE-ISSUED: September 9, 1997

US-CL-CURRENT: 514/468; 549/460 ; 549/461

APPL-NO: 08/ 460436

DATE FILED: June 2, 1995

US-PAT-NO: 5656450
DOCUMENT-IDENTIFIER: US 5656450 A

TITLE: Activation of latent transforming growth factor .beta. by matrix vesicles

DATE-ISSUED: August 12, 1997

US-CL-CURRENT: 435/68.1; 424/422 ; 424/548 ; 424/93.7 ; 435/173.1 ; 435/173.8 ; 435/177 ; 435/180 ; 435/182 ; 435/325 ; 435/395 ; 514/21 ; 530/812 ; 530/815 ; 530/817

APPL-NO: 08/ 250695

DATE FILED: May 27, 1994

US-PAT-NO: 5641636
DOCUMENT-IDENTIFIER: US 5641636 A

TITLE: Method of predicting fetal **membrane rupture based on matrix metalloproteinase**-9 activity

DATE-ISSUED: June 24, 1997

US-CL-CURRENT: 435/7.4; 435/18 ; 435/23 ; 436/65

APPL-NO: 08/ 246814

DATE FILED: May 20, 1994

US-PAT-NO: 5627206
DOCUMENT-IDENTIFIER: US 5627206 A

TITLE: Tricyclic inhibitor of matrix metalloproteinases

DATE-ISSUED: May 6, 1997

US-CL-CURRENT: 514/468; 549/461

APPL-NO: 08/ 460437

DATE FILED: June 2, 1995

US-PAT-NO: 5616608
DOCUMENT-IDENTIFIER: US 5616608 A

TITLE: Method of treating atherosclerosis or restenosis using microtubule stabilizing agent

DATE-ISSUED: April 1, 1997

US-CL-CURRENT: 514/449; 514/824

APPL-NO: 08/ 633185

DATE FILED: April 18, 1996

PARENT-CASE:

This is a continuation of application Ser. No. 08/099,067, filed on Jul. 29, 1993, now abandoned.

US-PAT-NO: 5602156
DOCUMENT-IDENTIFIER: US 5602156 A

TITLE: Method for inhibiting metalloproteinase expression

DATE-ISSUED: February 11, 1997

US-CL-CURRENT: 514/359; 514/255.05 ; 514/256 ; 514/261.1 ; 514/383 ; 514/396 ; 514/398 ; 514/400

APPL-NO: 08/ 209089

DATE FILED: March 10, 1994

PARENT-CASE:

The present application is a Continuation-In-Part of application Ser. No. 08/122,277, filed Sep. 17, 1993, now abandoned, the contents of which are incorporated herein by reference.

US-PAT-NO: 5585356
DOCUMENT-IDENTIFIER: US 5585356 A

TITLE: Matrix metalloproteinase peptides: role in diagnosis and therapy

DATE-ISSUED: December 17, 1996

US-CL-CURRENT: 514/17; 514/12 ; 514/13 ; 514/14 ; 514/15 ; 514/16

APPL-NO: 08/ 289825

DATE FILED: August 12, 1994

PARENT-CASE:

This is a Division of application Ser. No. 07/830,313 filed Jan. 31, 1992, now U.S. Pat. No. 5,372,809, which is a Division of application Ser. No. 07/488,460, filed Feb. 26, 1990, now U.S. Pat. No. 5,280,106, which is a continuation-in-part of application Ser. No. 07/317,407, filed Mar. 1, 1989, now U.S. Pat. No. 5,270,447, which is a continuation-in-part of application Ser. No. 07/248,420, filed Sep. 23, 1988, now abandoned, which is a continuation-in-part of application Ser. No. 07/196,242, filed May 20, 1988, now abandoned.

US-PAT-NO: 5583153
DOCUMENT-IDENTIFIER: US 5583153 A

TITLE: Use of taxol in the treatment of rheumatoid arthritis

DATE-ISSUED: December 10, 1996

US-CL-CURRENT: 514/449; 514/475

APPL-NO: 08/ 319236

DATE FILED: October 6, 1994

US-PAT-NO: 5372809
DOCUMENT-IDENTIFIER: US 5372809 A

TITLE: Antigenic matrix metalloproteinase peptides

DATE-ISSUED: December 13, 1994

US-CL-CURRENT: 424/185.1; 530/326 ; 530/806 ; 530/810 ; 930/10

APPL-NO: 07/ 830313

DATE FILED: January 31, 1992

PARENT-CASE:

This is a division of application Ser. No. 07/488,460, filed Feb. 26, 1990, now U.S. Pat. No. 5,280,106, which is a continuation-in-part of application Ser. No. 07/317,407, filed Mar. 1, 1989, now U.S. Pat. No. 5,270,447, which is a continuation-in-part of application Ser. No. 07/248,420, filed Sep. 23, 1988, now abandoned, which is a continuation-in-part of application Ser. No. 07/196,242, filed May 20, 1988, now abandoned.

US-PAT-NO: 5280106
DOCUMENT-IDENTIFIER: US 5280106 A

TITLE: Matrix metalloproteinase peptides: role in diagnosis and therapy

DATE-ISSUED: January 18, 1994

US-CL-CURRENT: 530/330; 435/219 ; 435/226 ; 530/300 ; 530/324 ; 530/327 ; 530/329 ; 930/250

APPL-NO: 07/ 488460

DATE FILED: February 26, 1990

PARENT-CASE:

This is a continuation-in-part of application Ser. No. 07/317,407, filed Mar. 1, 1989, which is a continuation-in-part of application Ser. No. 07/248,420, filed Sep. 23, 1988, now abandoned which is a continuation-in-part of application Ser. No. 07/196,242, filed May 20, 1988, now abandoned.

PGPUB-DOCUMENT-NUMBER: 20020143048

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020143048 A1

TITLE: Method for treating atherosclerosis or restenosis using microtubule stabilizing agent

PUBLICATION-DATE: October 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kinsella, James L.	Baltimore	MD	US	
Sollott, Steven J.	Baltimore	MD	US	

APPL-NO: 10/ 121500

DATE FILED: April 11, 2002

RELATED-US-APPL-DATA:

child 10121500 A1 20020411 parent continuation-of 08821906 19970321 US PENDING child 08821906 19970321 US parent continuation-of 08633185 19960418 US GRANTED parent-patent 5616608 US child 08633185 19960418 US parent continuation-of 08099067 19930729 US ABANDONED

US-CL-CURRENT: 514/449

ABSTRACT:

The present invention is a method of preventing or reducing atherosclerosis or restenosis, and a pharmaceutical preparation used therefor. In particular, it is a method of preventing or reducing atherosclerosis or restenosis after arterial injury by treatment with a low dose of a microtubule stabilizing agent such as taxol or a water soluble taxol derivative. The low dose used in the present invention prevents artery blockage while minimizing any negative side effects associated with the drug.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX:

[0014] During angioplasty, intraarterial balloon catheter inflation results in deendothelialization, disruption of the internal elastic lamina, and injury to medial smooth muscle cells. While restenosis likely results from the interdependent actions of the ensuing inflammation, thrombosis, and smooth muscle cell accumulation (Ferrell, M., et al. (1992) Circ., 85:1630-1631), the

final common pathway evolves as a result of medial VSMC dedifferentiation from a contractile to a secretory phenotype. This involves, principally, VSMC secretion of **matrix metalloproteinases degrading the surrounding basement membrane,** proliferation and chemotactic migration into the intina, and secretion of a large extracellular matrix, forming the neointimal fibropoliferative lesion. Much of the VSMC phenotypic dedifferentiation after arterial injury mimics that of neoplastic cells (i.e., abnormal proliferation, growth-regulatory molecule and protease secretion, migration and basement invasion).

PGPUB-DOCUMENT-NUMBER: 20020049422

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020049422 A1

TITLE: Homeopathic preparations

PUBLICATION-DATE: April 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Brewitt, Barbara A.	Seattle	WA	US	

APPL-NO: 10/ 001367

DATE FILED: October 30, 2001

RELATED-US-APPL-DATA:

child 10001367 A1 20011030 parent continuation-in-part-of 09870132 20010529 US PENDING child 09870132 20010529 US parent continuation-of 09251820 19990217 US PATENTED child 09251820 19990217 US parent continuation-in-part-of 08855096 19970513 US PATENTED child 08855096 19970513 US parent continuation-in-part-of 08710040 19960910 US PATENTED child 08710040 19960910 US parent continuation-of 08488722 19950608 US ABANDONED child 08488722 19950608 US parent continuation-in-part-of 08221365 19940331 US ABANDONED
non-provisional-of-provisional 60255958 20001215 US

US-CL-CURRENT: 604/500,424/523 ,424/752 ,424/94.1 ,514/2 ,514/458 ,514/557 ,514/78

ABSTRACT:

The present invention comprises homeopathic preparations of a purified protein described herein, as well as methods and systems for delivery of such preparations and treatment of disorders and conditions by administering such preparations.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 09/870,132, filed May 29, 2001, which is a continuation of U.S. patent application Ser. No. 09/251,820, filed Feb. 17, 1999, issued May 29, 2001 as U.S. Pat. No. 6,239,105, which is a continuation-in-part of U.S. patent application Ser. No. 08/855,096 filed May 13, 1997, issued Feb. 15, 200 as U.S. Pat. No. 6,024,734, which is a continuation-in-part of prior U.S. patent application Ser. No. 08/710,040 filed Sep. 10, 1996, issued May 13, 1997 as U.S. Pat. No. 5,629,286, which is a continuation of U.S. patent application Ser. No. 08/488,722, filed Jun. 8, 1995, now abandoned, which is

a continuation-in-part of U.S. patent application Ser. No. 08/221,365 filed Mar. 31, 1994, now abandoned. This application also claims the benefit of priority under 35 U.S.C. 119(e) to U.S. patent application Ser. No. 60/255,958, filed Dec. 15, 2000. Each of these applications and U.S. patents is incorporated herein by reference in its entirety.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX:

[0022] Other purified proteins that may be used alone in a homeopathic formulation, or in combination with purified growth hormone in a homeopathic formulation, include: growth factors described in prior related patents that are incorporated herein by reference, particularly insulin-like growth factor-1 (IGF-1) and related proteins; Fibrinogen .beta.; glycoprotein 130 (GP130); signal transducer and activator of transcription 3 (STAT3); mitogen activated protein kinase p38 (p38MAPK); growth arrest and DNA damage inducible protein 45 (GADD45); apurinic endonuclease (APEN); **membrane-type 1 matrix metalloproteinase-transmembra- ne** protein (MTI-MMP); monocarboxylate transporter 1 (MCT1); fatty acid binding protein (FABP); epidermal growth factor receptor (EGF-R and transforming growth factor-alpha receptor (TGF-alpha-R); insulin-like growth factor binding proteins 1 and 3 IGFBP-1 and IGFBP-3; acid labile subunit of the IGF binding complex (ALS); suppressors of cytokine signaling (SOCS); transcription factors c-fos, c-jun, interferon response factor (IRF)-1, and hepatocyte nuclear factor-6 (HNF-6). Combination of homeopathic potencies of purified growth hormone with purified insulin-like growth factor-1 are especially preferred for many applications.

Claims Text - CLTX:

1. A composition comprising a homeopathic preparation of purified protein selected from the group consisting of insulin-like growth factor-1 (IGF-1); Fibrinogen B; glycoprotein 130 (GP130); signal transducer and activator of transcription 3 (STAT3); mitogen activated protein kinase p38 (p38MAPK); growth arrest and DNA damage inducible protein 45 (GADD45); apurinic endonuclease (APEN); **membrane-type 1 matrix metalloproteinase-transmembrane** protein (MTI-MMP); monocarboxylate transporter 1 (MCT1); fatty acid binding protein (FABP); epidermal growth factor receptor (EGF-R) and transforming growth factor-alpha receptor (TGF-alpha-R); insulin-like growth factor binding proteins 1 and 3 (IGFBP-1 and IGFBP-3); acid labile subunit of the IGF binding complex (ALS); suppressors of cytokine signaling (SOCS); transcription factors c-fos, c-jun, interferon response factor (IRF)-1; hepatocyte nuclear factor-6 (HNF-6); a cyclin, including A or A-type cyclin, a B or B-type cyclin, a C or C-type cyclin, a D or D-type cyclin, or an E or E-type cyclin; granulocyte macrophage-colony stimulating factors (GM-CSF), granulocytecolony stimulating factors (G-CSF), macrophage-colony stimulating factors (M-CSF), tumor necrosis factors (such as TNF-.alpha.), hepatocyte growth factors, insulin-like growth factors (IGF), transforming growth factors (such as TGF.sub..beta.1), nerve growth factors (NGF), epidermal growth factor receptors, stem cell factors (SCF), platelet-derived growth factors (PDGF),

fibroblast growth factors (FGF), including FGF1 and FGF2, interleukin-1, interleukin-2, keratinocyte growth factors, ciliary neurotrophic growth factors, Schwann cell-derived growth factors, vaccinia virus growth factors, retinoic acid, bombyxin, neu differentiation factor, v-Sis, glial growth factor/acetylcholine receptor-inducing activity and other proteins belonging to their structural superfamilies; wherein the molar concentration of said purified protein is less than 1.times.10.sup.-6 molar.

US-PAT-NO: 6429232

DOCUMENT-IDENTIFIER: US 6429232 B1

TITLE: Method of treating atherosclerosis or restenosis using microtubule stabilizing agent

DATE-ISSUED: August 6, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kinsella; James L.	Baltimore	MD	N/A	N/A
Sollot; Steven J.	Baltimore	MD	N/A	N/A

APPL-NO: 08/ 821906

DATE FILED: March 21, 1997

PARENT-CASE:

This is a continuation of application Ser. No. 08/633,185, filed Apr. 18, 1996 now U.S. Pat. No. 5,616,608, which is a continuation of prior application Ser. No. 08/099,067, filed Jul. 29, 1993 now abandoned.

US-CL-CURRENT: 514/449

ABSTRACT:

The present invention is a method of preventing or reducing atherosclerosis or restenosis, and a pharmaceutical preparation used therefor. In particular, it is a method of preventing or reducing atherosclerosis or restenosis after arterial injury by treatment with a low dose of a microtubule stabilizing agent such as taxol or a water soluble taxol derivative. The low dose used in the present invention prevents artery blockage while minimizing any negative side effects associated with the drug.

40 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

---------- KWIC ---------

Brief Summary Text - BSTX:

During angioplasty, intraarterial balloon catheter inflation results in deendothelialiration, disruption of the internal elastic lamina, and injury to medial smooth muscle cells. While restenosis likely results from the

interdependent actions of the ensuing inflammation, thrombosis, and smooth muscle cell accumulation (Ferrell, M., et al. (1992) Circ., 85:1630-1631), the final common pathway evolves as a result of medial VSMC dedifferentiation from a contractile to a secretory phenotype. This involves, principally, VSMC secretion of **matrix metalloproteinases degrading the surrounding basement membrane,** proliferation and chemotactic migration into the intima, and secretion of a large extracellular matrix, forming the neointimal fibropoliferative lesion. Much of the VSMC phenotypic dedifferentiation after arterial injury mimics that of neoplastic cells (i.e., abnormal proliferation, growth-regulatory molecule and protease secretion, migration and basement invasion).

US-PAT-NO: 6403635

DOCUMENT-IDENTIFIER: US 6403635 B1

TITLE: Method of treating atherosclerosis or restenosis using microtubule stabilizing agent

DATE-ISSUED: June 11, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kinsella; James L.	Baltimore	MD	N/A	N/A
Sollot; Steven J.	Baltimore	MD	N/A	N/A

APPL-NO: 09/ 641549

DATE FILED: August 17, 2000

PARENT-CASE:

This is a continuation application of U.S. application Ser. No. 08/821,906 filed Mar. 21, 1997, which is a continuation of 08/633,185 filed Apr. 18, 1996, now U.S. Pat. No. 5,616,608, which is a continuation of U.S. Ser. No. 08/099,067 filed Jul. 29, 1993 now abandoned.

US-CL-CURRENT: 514/449; 206/569 ; 206/570 ; 514/824 ; 549/510 ; 549/511 ; 604/93.01

ABSTRACT:

The present invention is a method of preventing or reducing atherosclerosis or restenosis, and a pharmaceutical preparation used therefor. In particular, it is a method of preventing or reducing atherosclerosis or restenosis after arterial injury by treatment with a low dose of a microtubule stabilizing agent such as taxol or a water soluble taxol derivative. The low dose used in the present invention prevents artery blockage while minimizing any negative side effects associated with the drug.

14 Claims, 11 Drawing figures

Exemplary Claim Number: 9

Number of Drawing Sheets: 5

---------- KWIC ---------

Brief Summary Text - BSTX:

During angioplasty, intraarterial balloon catheter inflation results in deendothelialization, disruption of the internal elastic lamina, and injury to medial smooth muscle cells. While restenosis likely results from the interdependent actions of the ensuing inflammation, thrombosis, and smooth muscle cell accumulation (Ferrell, M., et al. (1992) Circ., 85:1630-1631), the final common pathway evolves as a result of medial VSMC dedifferentiation from a contractile to a secretory phenotype. This involves, principally, VSMC secretion of **matrix metalloproteinases degrading the surrounding basement membrane,** proliferation and chemotactic migration into the intima, and secretion of a large extracellular matrix, forming the neointimal fibroproliferative lesion. Much of the VSMC phenotypic dedifferentiation after arterial injury mimics that of neoplastic cells (i.e., abnormal proliferation, growth-regulatory molecule and protease secretion, migration and basement invasion).

US-PAT-NO: 6399348

DOCUMENT-IDENTIFIER: US 6399348 B1

TITLE: DNA sequences for matrix metalloproteases, their production and use

DATE-ISSUED: June 4, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Will; Horst	Berlin	N/A	N/A	DE
Hinzmann; Bernd	Berlin	N/A	N/A	DE

APPL-NO: 09/ 521220

DATE FILED: March 8, 2000

PARENT-CASE:

This application is a continuation of Ser. No. 08/704,711 filed Nov. 20, 1996, now U.S. Pat. No. 6,114,159 which is a 371 of PCT/DE95/00357 filed Mar. 17, 1995.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	44 09 663	March 17, 1994
DE	44 38 838	October 21, 1994

US-CL-CURRENT: 435/219; 435/226 ; 435/252.3 ; 435/252.33 ; 435/254.11 ; 435/320.1 ; 435/325 ; 536/23.2 ; 536/23.5

ABSTRACT:

DNA sequences for human matrix metalloproteases are disclosed, as well as homologous DNA sequences homologous and derived therefrom. Also disclosed are the proteins and protein variants coded by these DNA sequences, there expression, preparation and use. The invention has applications in the fields of biomolecular, medical and pharmaceutical research, for medical diagnosis and therapy, and in the pharmaceutical and biotechnological industry.

17 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

---------- KWIC ---------

Other Reference Publication - OREF:

Will, et al., "cDNA Sequence and mRNA tissue distribution of a novel human **Matrix Metalloproteinase with a potential transmembrane** segment", Eur. J. Biochem., 231:3, 602-608 (1995).

US-PAT-NO: 6391853

DOCUMENT-IDENTIFIER: US 6391853 B1

TITLE: Human tissue inhibitor of metalloproteinase-4

DATE-ISSUED: May 21, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Greene; John M.	Gaithersburg	MD	N/A	N/A
Rosen; Craig A.	Laytonsville	MD	N/A	N/A

APPL-NO: 09/ 262087

DATE FILED: March 4, 1999

PARENT-CASE:

This application is a Divisional of and claims priority under 35 U.S.C. section 120 to patent application Ser. No. 08/463,261, filed Jun. 5, 1995, pending, which is a continuation U.S. patent application Ser. No. PCT US94/14498 filed Dec. 13, 1994, both of which are incorporated herein by reference in their entireties.

US-CL-CURRENT: 514/12; 435/226

ABSTRACT:

A human tissue inhibitor of metalloproteinases-4 polypeptide and DNA (RNA) encoding such polypeptide and a procedure for producing such polypeptide by recombinant techniques. Also disclosed are methods for utilizing such polypeptide for the treatment of diseases, including arthritis and cancer. Antagonists against such polypeptides and their use as a therapeutic to resorb scar tissue are also disclosed. Diagnostic assays for detecting levels of human TIMP-4 protein and mutations in human TIMP-4 nucleic acid sequence are also disclosed.

106 Claims, 3 Drawing figures

Exemplary Claim Number: 2

Number of Drawing Sheets: 3

---------- KWIC ---------

Other Reference Publication - OREF:

Rosenthal, E., et al., Role of **membrane type 1-matrix metalloproteinase** and gelatinase A in head and neck squamous cell carcinoma invation in vitro, Otolaryngology-Head and Neck Surgery 121:337-343 (1999).

Other Reference Publication - OREF:

Tsunezuka, Y., et al., Expression of **Membrane-type Matrix Metalloproteinase** 1 (MT1-MMP) in Tumor Cells Enhances Pulmonary Metastasis in an Experimental Metastatis Assay, Cancer Research 56:5678-5683 (1996).

Other Reference Publication - OREF:

Kadono, Y., et al., Transformation of Epithelial Madin-Darby Canine Kidney Cells with p60.sup.v-src Induces Expression of **Membrane-Type 1 Matrix Metalloproteinase** and Invasiveness, Cancer Research 58:2240-2244 (1998).

Other Reference Publication - OREF:

Hotary, K., et al., Regulation of Cell Invasion and Morphogenesis in a Three-dimensional Type I Collagen **Matrix by Membrane-type Matrix Metalloproteinases** 1, 2, and 3, J. Cell Biology 149:1309-1323 (2000).

US-PAT-NO: 6307101

DOCUMENT-IDENTIFIER: US 6307101 B1

TITLE: Inhibitors of metalloproteases, pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: October 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Campbell; David A.	San Mateo	CA	94402	N/A
Patel; Dinesh V.	Fremont	CA	94086	N/A
Xiao; Xiao-Yi	La Jolla	CA	92037	N/A

APPL-NO: 09/ 271801

DATE FILED: March 17, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a 1.53(b) continuation of U.S. application Ser. No. 09/081,466 filed May 19, 1998 (now U.S. Pat. No. 5,929,278), which is a 1.53(b) continuation of U.S. application Ser. No. 08/549,345 filed Oct. 27, 1995 (now U.S. Pat. No. 5,831,004), which is a continuation-in-part of U.S. patent application Ser. No. 08/484,255 filed Jun. 7, 1995 (now abandoned) which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/329,420, filed Oct. 27, 1994, (now abandoned) which disclosures are incorporated herein by reference in their entirety.

US-CL-CURRENT: 564/154; 544/159 ; 546/309

ABSTRACT:

Disclosed are novel inhibitors of metalloproteases, in particular matrix metalloproteases. The disclosed inhibitors are mercaptoketone and mercaptoalcohol compounds which are useful in pharmaceutical compositions and methods for treating or controlling disease states or conditions which involve tissue breakdown, for example, arthropathy, dermatological conditions, bone resorption, inflammatory diseases, and tumor invasion and in the promotion of wound healing.

4 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

---------- KWIC ---------

Detailed Description Text - DETX:

The matrix metalloendoproteases include, but are not limited to stromelysins, collagenases, elastases, matrilysin and gelatinases, that are capable of degrading the major components of articular cartilage and basement **membranes (Docherty et al., "The Matrix Metalloproteinases** and Their Natural Inhibitors: Prospects For Treating Degenerative Tissue Diseases," Tibtech 10:(1992) with the understanding that said metalloproteases do not include stromelysin-I and collagenase-1. More specifically, matrix metalloproteases include, without limitation, human skin fibroblast collagenase, human skin fibroblast gelatinase, purulent human sputum collagenases and gelatinase, and human stromelysin. These are zinc-containing metalloprotease enzymes, as are the angiotensin converting enzymes, the enkephalinases, and TNF.

US-PAT-NO: 6140099

DOCUMENT-IDENTIFIER: US 6140099 A

TITLE: Method of delaying fetal **membrane rupture by inhibiting matrix metalloproteinase**-9 activity

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Strauss, III; Jerome	Wyndmoor	PA	N/A	N/A

APPL-NO: 08/ 993900

DATE FILED: December 18, 1997

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 08/727,883, filed on Oct. 9, 1996, issued as U.S. Pat. No. 5,698,404, which is a divisional of U.S. application Ser. No. 08/246,814, issued U.S. Pat. No. 5,641,636.

US-CL-CURRENT: 435/219; 435/267 ; 436/120 ; 436/131 ; 436/65 ; 514/12 ; 514/2 ; 514/21 ; 514/563 ; 514/575

ABSTRACT:

The invention relates to compositions and methods for delaying the onset of fetal membrane rupture in a human. The method comprises administering to the human a metalloproteinase-9 inhibitor in an amount effective to delay the onset of fetal membrane rupture in the human.

8 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

---------- KWIC ---------

TITLE - TI:

Method of delaying fetal **membrane rupture by inhibiting matrix metalloproteinase**-9 activity

Detailed Description Text - DETX:

MMP-1 and MMP-3 have previously been identified in cultured cells derived from fetal membranes. However, the data illustrated in FIGS. 3A-3C clearly indicated that the presence or levels of these two **matrix metalloproteinases were not correlated with structural changes in fetal membranes** in the rat model. Nor were these enzymes detected in getalinolytic or caseinolytic assays in human female membranes in association with labor. On the basis of these data, there appeared to be no direct correlation between the presence of other known MMPs (other than MMP-9) and the process of fetal membrane rupture.

Detailed Description Text - DETX:

The membranes surrounding the chicken embryo underwent striking morphological changes prior to hatching on embryonic Day 20, including loss of collagen and death of cells associated with the membranes. These changes in the structure of the **membranes were associated with the induction of a matrix metalloproteinase homologous to MMP-13 which appeared in the membranes** and the amniotic fluid. The appearance of MMP-13 activity was denoted by the 55 kDa band in zymograms of Day 20 (FIG. 4A) and the appearance of a 2.9 kb mRNA species in fetal membranes on Day 19. In contrast to the induction of MMP-13 activity, mRNA specific for MMP-2 was constitutively expressed in the membranes (FIG. 4B). This sequence of events was identical to changes observed in rat and human fetal membranes before the onset of active labor.

Claims Text - CLTX:

1. A method of delaying the onset of fetal membrane rupture in a human comprising administering to said human a matrix metalloproteinase-9 inhibitor in an amount effective to delay the onset of fetal **membrane rupture in said human, wherein said matrix metalloproteinase**-9 inhibitor is a hydroxamic acid-based compound.

US-PAT-NO: 5958972

DOCUMENT-IDENTIFIER: US 5958972 A

TITLE: Tricyclic inhibitors of matrix metalloproteinases

DATE-ISSUED: September 28, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hupe; Donald	Ann Arbor	MI	N/A	N/A
Johnson; Linda Lea	Ann Arbor	MI	N/A	N/A
Picard; Joseph Armand	Canton	MI	N/A	N/A
White; Andrew David	Lakeland	MI	N/A	N/A
Ye; Qi-Zhuang	Ann Arbor	MI	N/A	N/A

APPL-NO: 08/ 859437

DATE FILED: May 20, 1997

PARENT-CASE:

This application is a division of application Ser. No. 08/460,436 filed Jun. 2, 1995 which application is now U.S. Pat. No. 5,665,764.

US-CL-CURRENT: 514/529; 514/290 ; 514/292 ; 514/577 ; 546/111 ; 546/85 ; 546/86 ; 546/87 ; 560/55 ; 560/56 ; 562/466

ABSTRACT:

Tricyclic compounds are described as well as methods for the preparation and pharmaceutical compositions of same, which are useful as inhibitors of matrix metalloproteinases, particularly gelatinase A (72 kD gelatinase) and stromelysin-1 and for the treatment of multiple sclerosis, atherosclerotic plaque rupture, aortic aneurism, heart failure, restenosis, periodontal disease, corneal ulceration, cancer metastasis, tumor angiogenesis, arthritis, or other autoimmune or inflammatory disorders dependent upon tissue invasion by leukocytes.

16 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX:

Gelatinase A and stromelysin-1 are members of the matrix metalloproteinase

(MMP) family (Woessner J. F., FASEB J. 1991;5:2145-2154). Other members include fibroblast collagenase, neutrophil collagenase, gelatinase B (92 kDa gelatinase), stromelysin-2, stromelysin-3, matrilysin, collagenase 3 (Freije J. M., Diez-Itza I., Balbin M., Sanchez L. M., Blasco R., Tolivia J., and Lopez-Otin C. J. Biol. Chem., 1994;269:16766-16773), and the newly discovered **membrane-associated matrix metalloproteinases** (Sato H., Takino T., Okada Y., Cao J., Shinagawa A., Yamamoto E., and Seiki M., Nature, 1994;370:61-65).

US-PAT-NO: 5929278

DOCUMENT-IDENTIFIER: US 5929278 A

TITLE: Inhibitors of metalloproteases, pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: July 27, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Campbell; David A.	San Mateo	CA	N/A	N/A
Patel; Dinesh V.	Fremont	CA	N/A	N/A
Xiao; Xiao-Yi	La Jolla	CA	N/A	N/A

APPL-NO: 09/ 081466

DATE FILED: May 19, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation of 08/549,345 filed Oct. 27, 1995 now U.S. Pat. No. 5,831,004 which is a continuation-in-part of U.S. patent application Ser. No. 08/484,255 filed Jun. 7, 1995 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/329,420, filed Oct. 27, 1994 now abandoned, which disclosures are incorporated herein by reference in their entirety.

US-CL-CURRENT: 564/154; 544/159 ; 546/309

ABSTRACT:

Disclosed are novel inhibitors of metalloproteases, in particular matrix metalloproteases. The disclosed inhibitors are mercaptoketone and mercaptoalcohol compounds which are useful in pharmaceutical compositions and methods for treating or controlling disease states or conditions which involve tissue breakdown, for example, arthropathy, dermatological conditions, bone resorption, inflammatory diseases, and tumor invasion and in the promotion of wound healing.

8 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

---------- KWIC ---------

Detailed Description Text - DETX:

The matrix metalloendoproteases include, but are not limited to stromelysins, collagenases, elastases. matrilysin and gelatinases, that are capable of degrading the major components of articular cartilage and basement **membranes (Docherty ei al., "The Matrix Metalloproteinases** and Their Natural Inhibitors: Prospects For Treating Degenerative Tissue Diseases," Tibtech 10:(1992) with the understanding that said metalloproteases do not include stromelysin-l and collagenase-1. More specifically, matrix metalloproteases include, without limitation, human skin fibroblast collagenase, human skin fibroblast gelatinase, purulent human sputum collagenases and gelatinase, and human stromelysin. These are zinc-containing metalloprotease enzymes, as are the angiotensin converting enzymes, the enkephalinases, and TNF.

US-PAT-NO: 5831004

DOCUMENT-IDENTIFIER: US 5831004 A

TITLE: Inhibitors of metalloproteases, pharmaceutical compositions comprising same and methods of their use

DATE-ISSUED: November 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Campbell; David A.	San Mateo	CA	N/A	N/A
Patel; Dinesh V.	Fremont	CA	N/A	N/A
Xiao; Xiao-Yi	San Diego	CA	N/A	N/A

APPL-NO: 08/ 549345

DATE FILED: October 27, 1995

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of U.S. patent application Ser. No. 08/484,255 filed Jun. 7, 1995 now abandoned, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/329,420, filed Oct. 27, 1994, now abandoned, which disclosures are incorporated herein by reference in their entirety.

US-CL-CURRENT: 530/331; 544/159 ; 546/309 ; 564/154

ABSTRACT:

Disclosed are novel inhibitors of metalloproteases, in particular matrix metalloproteases. The disclosed inhibitors are mercaptoketone and mercaptoalcohol compounds which are useful in pharmaceutical compositions and methods for treating or controlling disease states or conditions which involve tissue breakdown, for example, arthropathy, dermatological conditions, bone resorption, inflammatory diseases, and tumor invasion and in the promotion of wound healing.

8 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

---------- KWIC ---------

Detailed Description Text - DETX:

The matrix metalloendoproteases include, but are not limited to stromelysins, collagenases, elastases, matrilysin and gelatinases, that are capable of degrading the major components of articular cartilage and basement **membranes (Docherty et al., "The Matrix Metalloproteinases** and Their Natural Inhibitors: Prospects For Treating Degenerative Tissue Diseases," Tibtech 10:(1992) with the understanding that said metalloproteases do not include stromelysin-l and collagenase-1. More specifically, matrix metalloproteases include, without limitation, human skin fibroblast collagenase, human skin fibroblast gelatinase, purulent human sputum collagenases and gelatinase, and human stromelysin. These are zinc-containing metalloprotease enzymes, as are the angiotensin converting enzymes, the enkephalinases, and TNF.

US-PAT-NO: 5726015

DOCUMENT-IDENTIFIER: US 5726015 A

TITLE: Method to determine metastatic potential of tumor cells

DATE-ISSUED: March 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matrisian; Lynn M.	Nashville	TN	N/A	N/A

APPL-NO: 08/ 371082

DATE FILED: January 10, 1995

PARENT-CASE:

RELATED APPLICATIONS This application is a Continuation of application Ser. No. 08/061,827 filed May 17, 1993, now abandoned, which is a Continuation of application Ser. No. 07/700,505 filed May 15, 1991, now abandoned.

US-CL-CURRENT: 435/6; 536/23.5

ABSTRACT:

This invention relates to a method to determine the metastatic potential of tumor cells. In particular, this invention relates to the detecting of the expression of metalloproteinase pump protein. The expression of this protein can be determined by molecular diagnostic means such as a Northern Blot analysis or polymerase chain reaction amplification. Additionally, immunological methods can be employed to detect metalloproteinase pump protein.

7 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Brief Summary Text - BSTX:

The pump cDNA clone was originally isolated by Richard Breathnach and his colleagues from a cDNA library prepared from mRNA from a collection of human tumor cells. Muller et al., Biochem. J. 253:187-192 (1988). There is no indication in this publication as to the type of tumor that expresses pump enzyme, whether it is found in normal tissue, or if there is any relationship

between tumor invasion and metastasis and pump expression. A subsequent publication by this group (Quantin et al., Biochemistry 28:5327-5334, (1989)) confirms that the pump protein is a **metalloproteinase and can degrade extracellular matrix and basement membrane** proteins.

US-PAT-NO: 5698404

DOCUMENT-IDENTIFIER: US 5698404 A

TITLE: Method of predicting fetal **membrane rupture based on pro-matrix metalloproteinase**-9 (pro-mmp-9)

DATE-ISSUED: December 16, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Strauss, III; Jerome	Wyndmoor	PA	N/A	N/A
Frank	La Magdalena	N/A	N/A	MX
Vadillo-Ortega; Felipe				

APPL-NO: 08/ 727883

DATE FILED: October 9, 1996

PARENT-CASE:

This is a continuation of application Ser. No. 08/246,814 filed May 20,1994, now U.S. Pat. No. 5,641,636.

US-CL-CURRENT: 435/7.4; 435/18 ; 435/23 ; 435/24 ; 436/518 ; 436/530 ; 436/531

ABSTRACT:

Disclosed is a method of predicting the onset of fetal membrane rupture in a gestative female comprising the step of assaying a tissue or fluid sample of fetal membrane origin obtained from the female for the presence of pro-metalloproteinase-9 (pro-mmd-9). The presence of pro-mmd-9 in the sample is a positive indication of the onset of fetal membrane rupture. Also disclosed is a method of delaying the onset of female membrane rupture in a gestative female comprising the step of administering to the female an MMP-9 inhibitor in an amount effective to delay fetal membrane rupture. Further disclosed is a method of inducing labor in a gestative female comprising the administration of an MMP-9 activator or MMP-9 itself in an amount effective to induce fetal membrane rupture, and thus facilitate the onset of labor.

18 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

---------- KWIC ---------

TITLE - TI:

Method of predicting fetal **membrane rupture based on pro-matrix metalloproteinase**-9 (pro-mmp-9)

Detailed Description Text - DETX:

MMP-1 and MMP-3 had previously been identified in cultured cells derived from fetal membranes. However, the data illustrated in FIGS. 3A-C clearly indicate that these two **matrix metalloproteinases are not correlated with structural changes in fetal membranes** in the rat model. Nor were these enzymes detected in getalinolytic or caseinolytic assays in human female membranes in association with labor. On the basis of these data, there appears to be no direct correlation between the presence of other known MMPs and the process of fetal membrane rupture.

US-PAT-NO: 5665764

DOCUMENT-IDENTIFIER: US 5665764 A

TITLE: Tricyclic inhibitors of matrix metalloproteinases

DATE-ISSUED: September 9, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hupe; Donald	Ann Arbor	MI	N/A	N/A
Johnson; Linda Lea	Ann Arbor	MI	N/A	N/A
Picard; Joseph Armand	Canton	MI	N/A	N/A
White; Andrew David	Lakeland	MI	N/A	N/A
Ye; Qi-Zhuang	Ann Arbor	MI	N/A	N/A

APPL-NO: 08/ 460436

DATE FILED: June 2, 1995

US-CL-CURRENT: 514/468; 549/460 ; 549/461

ABSTRACT:

Tricyclic compounds are described as well as methods for the preparation and pharmaceutical compositions of same, which are useful as inhibitors of matrix metalloproteinases, particularly gelatinase A (72 kD gelatinase) and stromelysin-1 and for the treatment of multiple sclerosis, atherosclerotic plaque rupture, aortic aneurism, heart failure, restenosis, periodontal disease, corneal ulceration, cancer metastasis, tumor angionenesis, arthritis, or other autoimmune or inflammatory disorders dependent upon tissue invasion by leukocytes.

12 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX:

Gelatinase A and stromelysin-1 are members of the matrix metalloproteinase (MMP) family (Woessner J. F., FASEB J. 1991;5:2145-2154). Other members include fibroblast collagenase, neutrophil collagenase, gelatinase B (92 kDa gelatinase), stromelysin-2, stromelysin-3, matrilysin, collagenase. 3 (Freije J. M., Diez-Itza I., Balbin M., Sanchez L. M., Blasco R., Tolivia J., and Lopez-Otin C. J. Biol. Chem., 1994;269:16766-16773), and the newly discovered **membrane-associated matrix metalloproteinases** (Sato H., Takino T., Okada Y.,

Cao J., Shinagawa A., Yamamoto E., and Seiki M., Nature, 1994;370:61-65).

US-PAT-NO: 5656450

DOCUMENT-IDENTIFIER: US 5656450 A

TITLE: Activation of latent transforming growth factor .beta. by matrix vesicles

DATE-ISSUED: August 12, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Boyan; Barbara D.	San Antonio	TX	N/A	N/A
Schwartz; Zvi	San Antonio	TX	N/A	N/A
Bonewald; Lynda F.	San Antonio	TX	N/A	N/A

APPL-NO: 08/ 250695

DATE FILED: May 27, 1994

US-CL-CURRENT: 435/68.1; 424/422 ; 424/548 ; 424/93.7 ; 435/173.1 ; 435/173.8 ; 435/177 ; 435/180 ; 435/182 ; 435/325 ; 435/395 ; 514/21 ; 530/812 ; 530/815 ; 530/817

ABSTRACT:

A latent growth factor such as transforming growth factor beta (TGF.beta.) is converted to active form by matrix vesicles or an extract from matrix vesicles. The matrix vesicles may be stimulated with a Regulator of Enhancing Factor (REF) such as 1,25-dihydroxy vitamin D (1,25-(OH).sub.2 D.sub.3) or steroid hormones which may be intercalated into the vesicle membrane. The latent growth factor may be activated in culturing cells such as chondrocytes that have been pretreated with 24,25-(OH).sub.2 D.sub.3 to activate cell differentiation, or in healing of bone or cartilage defects, and activation can be carried out in vivo or in vitro. Biodegradable polymeric implants may be prepared containing latent growth factor, REF, matrix vesicle or matrix vesicle extract.

9 Claims, 5 Drawing figures

Exemplary Claim Number: 1,6

Number of Drawing Sheets: 3

---------- KWIC ---------

Brief Summary Text - BSTX:

Other enzymes present in matrix vesicles are sensitive to regulation by

TGF.beta. and vitamin D metabolites (Schwartz, Z., et al., Endocrinology (1993) 132:1544-1552; Schwartz, Z., et al., Endocrinology (1988) 123:2878-2884; Sylvia, V. L., et al., J. Cell Physiol. (1993) 157:271-278; Boyan, B. D., et al., Endocrinology (1988) 122:2851-2860). In both instances the effects are cell maturation-dependent and vitamin D metabolite-specific. 1,25-(OH).sub.2 D.sub.3 stimulates matrix vesicle phospholipase A.sub.2 (Schwartz, Z. and Boyan, B., Endocrinology (1988) 122:2191-2198), increasing the production of lyso derivatives, resulting in loss of membrane integrity (Ginsburg, L. et al., Inflammation (1992) 16:519-538). In contrast, 24,25-(OH).sub.2 D.sub.3 inhibits matrix vesicle phospholipase A.sub.2 (Schwartz, Z. and Boyan, B., Endocrinology (1988) 122:2191-2198), potentially resulting in a more stable **membrane and retention of metalloproteinases within the matrix** vesicle.

US-PAT-NO: 5641636

DOCUMENT-IDENTIFIER: US 5641636 A

TITLE: Method of predicting fetal **membrane rupture based on matrix metalloproteinase**-9 activity

DATE-ISSUED: June 24, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Strauss, III; Jerome	Wyndmoor	PA	N/A	N/A
Frank	La Magdalena	N/A	N/A	MX
Vadillo-Ortega; Felipe				

APPL-NO: 08/ 246814

DATE FILED: May 20, 1994

US-CL-CURRENT: 435/7.4; 435/18 ; 435/23 ; 436/65

ABSTRACT:

Disclosed is a method of predicting the onset of fetal membrane rupture in a gestative female comprising the step of assaying a tissue or fluid sample of fetal membrane origin obtained from the female for the presence of metalloproteinase-9 activity. The presence of such activity in the sample is a positive indication of the onset of fetal membrane rupture. Also disclosed is a method of delaying the onset of female membrane rupture in a gestative female comprising the step of administering to the female an MMP-9 inhibitor in an amount effective to delay fetal membrane rupture. Further disclosed is a method of inducing labor in a gestative female comprising the administration of an MMP-9 activator or MMP-9 itself in an amount effective to induce fetal membrane rupture, and thus facilitate the onset of labor.

24 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

---------- KWIC ---------

TITLE - TI:

Method of predicting fetal **membrane rupture based on matrix metalloproteinase**-9 activity

Detailed Description Text - DETX:

MMP-1 and MMP-3 had previously been identified in cultured cells derived from fetal membranes. However, the data illustrated in FIGS. 3A-C clearly indicate that these two **matrix metalloproteinases are not correlated with structural changes in fetal membranes** in the rat model. Nor were these enzymes detected in getalinolytic or caseinolytic assays in human female membranes in association with labor. 0n the basis of these data, there appears to be no direct correlation between the presence of other known MMPs and the process of fetal membrane rupture.

US-PAT-NO: 5627206

DOCUMENT-IDENTIFIER: US 5627206 A

TITLE: Tricyclic inhibitor of matrix metalloproteinases

DATE-ISSUED: May 6, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hupe; Donald	Ann Arbor	MI	N/A	N/A
Johnson; Linda Lea	Ann Arbor	MI	N/A	N/A
Ye; Qi-Zhuang	Ann Arbor	MI	N/A	N/A

APPL-NO: 08/ 460437

DATE FILED: June 2, 1995

US-CL-CURRENT: 514/468; 549/461

ABSTRACT:

A tricyclic compound is described as well as pharmaceutical compositions of same, which is useful as an inhibitor of matrix metalloproteinases, particularly gelatinase A (72 kD gelatinase) for the treatment of multiple sclerosis or other autoimmune or inflammatory disorders dependent upon tissue invasion by leukocytes.

5 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX:

Gelatinase A and stromelysin-1 are members of the matrix metalloproteinase (MMP) family (Woessner J.F., FASEB J. 1991;5:2145-2154). Other members include fibroblast collagenase, neutrophil collagenase, gelatinase B (92 kDa gelatinase), stromelysin-2, stromelysin-3, matrilysin, collagenase 3 (Freije J.M., Diez-Itza I., Balbin M., Sanchez L.M., Blasco R., Tolivia J., and Lopez-Otin C. J. Biol. Chem., 1994;269:16766-16773), and the newly discovered **membrane-associated matrix metalloproteinases** (Sato H., Takino T., Okada Y., Cao J., Shinagawa A., Yamamoto E., and Seiki M., Nature, 1994;370:61-65).

US-PAT-NO: 5616608

DOCUMENT-IDENTIFIER: US 5616608 A

TITLE: Method of treating atherosclerosis or restenosis using microtubule stabilizing agent

DATE-ISSUED: April 1, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kinsella; James L.	Baltimore	MD	N/A	N/A
Sollott; Steven J.	Baltimore	MD	N/A	N/A

APPL-NO: 08/ 633185

DATE FILED: April 18, 1996

PARENT-CASE:

This is a continuation of application Ser. No. 08/099,067, filed on Jul. 29, 1993, now abandoned.

US-CL-CURRENT: 514/449; 514/824

ABSTRACT:

The present invention is a method of preventing or reducing atherosclerosis or restenosis, and a pharmaceutical preparation used therefor. In particular, it is a method of preventing or reducing atherosclerosis or restenosis after arterial injury by treatment with a low dose of a microtubule stabilizing agent such as taxol or a water soluble taxol derivative. The low dose used in the present invention prevents artery blockage while minimizing any negative side effects associated with the drug.

14 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

---------- KWIC ---------

Brief Summary Text - BSTX:

During angioplasty, intraarterial balloon catheter inflation results in deendothelialization, disruption of the internal elastic lamina, and injury to medial smooth muscle cells. While restenosis likely results from the

interdependent actions of the ensuing inflammation, thrombosis, and smooth muscle cell accumulation (Ferrell, M., et al. (1992) Circ., 85:1630-1631), the final common pathway evolves as a result of medial VSMC dedifferentiation from a contractile to a secretory phenotype. This involves, principally, VSMC secretion of **matrix metalloproteinases degrading the surrounding basement membrane,** proliferation and chemotactic migration into the intima, and secretion of a large extracellular matrix, forming the neointimal fibropoliferative lesion. Much of the VSMC phenotypic dedifferentiation after arterial injury mimics that of neoplastic cells (i.e., abnormal proliferation, growth-regulatory molecule and protease secretion, migration and basement invasion).

US-PAT-NO: 5602156

DOCUMENT-IDENTIFIER: US 5602156 A

TITLE: Method for inhibiting metalloproteinase expression

DATE-ISSUED: February 11, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kohn; Elise C.	Olney	MD	N/A	N/A
Liotta; Lance A.	Potomac	MD	N/A	N/A

APPL-NO: 08/ 209089

DATE FILED: March 10, 1994

PARENT-CASE:

The present application is a Continuation-In-Part of application Ser. No. 08/122,277, filed Sep. 17, 1993, now abandoned, the contents of which are incorporated herein by reference.

US-CL-CURRENT: 514/359; 514/255.05 ; 514/256 ; 514/261.1 ; 514/383 ; 514/396 ; 514/398 ; 514/400

ABSTRACT:

Calcium homeostasis is an important regulator of MMP-2 transcription, activation and activity. Disclosed herein are compounds which inhibit the expression of matrix metalloproteinases in cells. Pharmaceutical application of these compounds to inhibit the expression of MMPs offers a new approach to cancer treatment as well as treatment for nerve healing, degenerative cartilagenous diseases, decubitus ulcers, arthritis, Alzheimer's disease, wound healing, proliferative retinopathy, proliferative renal diseases, corneal ulcers and fertility problems.

13 Claims, 18 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

---------- KWIC ---------

Brief Summary Text - BSTX:

One example of ectopic activity of an otherwise normal function is

collagenolytic degradation of basement **membrane and extracellular matrix by secreted matrix metalloproteinases** (MMPs).

Brief Summary Text - BSTX:

Proteolysis and interruption of the basement **membrane requires activation of specialized matrix metalloproteinases which selectively degrade basement membrane** collagens type IV and V, the type IV collagenases or gelatinases (MMPs). Liotta, et al., Nature 284:67-68 (1980). Two species of MMPs, the 72 kDa species (MMP-2, gelatinase A) and the 92 kDa species (MMP-9, gelatinase B) have been isolated, cloned and sequenced. Liotta, et al., ibid.; and Liotta, et al., Biochemistry 20:100-104 (1981). Both MMPs are secreted as latent proenzymes which require the removal of an 80 or 87 amino acid amino-terminal domain for activation. Stefler-Stevenson, et al., J. Biol Chem. 264:1353-1356 (1989). Little is known about the signaling pathways which mediate the production and activation of these enzymes. While the activity of these proteinases is metal ion (Zn.sup.++)-dependent, the regulation of MMP production by divalent cations is unknown.

US-PAT-NO: 5585356

DOCUMENT-IDENTIFIER: US 5585356 A

TITLE: Matrix metalloproteinase peptides: role in diagnosis and therapy

DATE-ISSUED: December 17, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Liotta; Lance A.	Potomac	MD	20854	N/A
Stetler-Stevenson; William G.	Gaithersburg	MD	20879	N/A
Krutsch; Henry C.	Bethesda	MD	20817	N/A

APPL-NO: 08/ 289825

DATE FILED: August 12, 1994

PARENT-CASE:

This is a Division of application Ser. No. 07/830,313 filed Jan. 31, 1992, now U.S. Pat. No. 5,372,809, which is a Division of application Ser. No. 07/488,460, filed Feb. 26, 1990, now U.S. Pat. No. 5,280,106, which is a continuation-in-part of application Ser. No. 07/317,407, filed Mar. 1, 1989, now U.S. Pat. No. 5,270,447, which is a continuation-in-part of application Ser. No. 07/248,420, filed Sep. 23, 1988, now abandoned, which is a continuation-in-part of application Ser. No. 07/196,242, filed May 20, 1988, now abandoned.

US-CL-CURRENT: 514/17; 514/12 ; 514/13 ; 514/14 ; 514/15 ; 514/16

ABSTRACT:

A family of metalloproteinases exist which cleave extracellular matrix molecules. These metalloproteinases are secreted in a latent inactive form and require activation in order to specifically cleave the preferred substrate. A series of peptides have been prepared based on the complete sequence analysis of type IV procollagenase. Peptide inhibitors were synthesized which correspond to cysteine repeat regions and histidine containing regions; the mechanism of action of these peptides involves inhibition of binding of the enzyme to the substrate. Peptide inhibitors were synthesized which correspond to the peptide cleaved off during activation, and constitute a novel class of metalloproteinase inhibitors. These inhibitors are members of a series of peptides which contain the core amino acid sequence RKPRC or analogs thereof. The cysteine residue is required for activity. Affinity purified antibodies directed against specific peptides can be used to a) detect any general metalloproteinase enzyme with the sequence in part VAAHE or PRCGNPD, and distinguish it from other known members of the metalloproteinase family, b) block functional domains resulting in the inhibition of enzyme activity, and c)

distinguish latent from activated forms of the enzyme.

10 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14

---------- KWIC ---------

Brief Summary Text - BSTX:

The degradation of interstitial and basement **membrane collagens is initiated by a specific class of metalloproteinase, the matrix metalloproteinases,** also known as the collagenases (EC 3.4.24.7), which are secreted into the extracellular matrix in zymogen form. Members of this collagenase gene family include: the interstitial collagenases, which degrade collagen types I, II and III and have been characterized with respect to substrate specificity and requirements for activation (Stricklin, G. P., Jeffrey, J. J., Rosewit, W. T., and Eisen, A. Z., 1983, Biochemistry 22, 61-68; Goldberg, G. I., Wilhlem, S., Kronberger, A., Bauer, E. A., Grant, G. A., and Eisen, A. Z., 1986, J. Biol. Chem. 261, 6600-6605; Hasty, K. A., Jeffrey, J. J., Hibbs, M. S., and Welgus, H. G., 1987, J. Biol. Che, 262, 10048-1052; Fields, G. B., Van Wart, H. E., and Birkedal-Hansen, H., 1987, J. Biol. Chem. 262, 6221-6226; Grant, G. A., Eisen, A. Z., Mariner, B. L. Rosweit, W. T., and Goldberg, G. I., 1987, J. Biol. Chem. 262, 5886-5889); stromelysin, which degrades proteoglycans, glycoproteins, and the non-helical portions of collagenous molecules (Wilhelm, S. M., Collierre, I. E., Kronberger, A., Eisen, A. Z., Mariner, B. L., Grant, G. A., Bauer, E., and Goldberg, G. I., 1987, Proc. Natl. Acad. Sci. U.S.A. 84, 6725-6729; Whitman, S. E., Murphy, G., Angel, P., Rahmsforf, H.-J., SMith, B. J., Lyons, A., Harris, T. J. T., Reynolds. J. J., Herrlich, P. and Docherty, A. J. P., 1986, Biochem. J. 240, 913-916); and type IV collagenase, which degrades pepsin-resistant triple-helical type IV collagen and interstitial collagens (gelatin). Type IV collagenase has been identified in human tumor cells (Liotta, L. A., Kleinerman, J., Catanzaro, P., and Rynbrandt, D., 1977, J. Natl. Cancer Inst. 58, 1427-1439; Turpeenniemi-Hujanen, T., and Tryggvason, K., 1982, Int. J. Cancer 30p, 669-673; Liotta, L. A., Abe, S., Gehron-Robey, P., and Martin, G. R., 1979, Proc. Natl. Acad. Sci. U.S.A. 76 2268-2272; Liotta, L. A., Tryggvasson, K., Garbisa, S., Hart, I., Foltz, C. M., and Shafie, S., 1980, Nature, Lond., 284, 67-68; Collier, I. E., Wilhelm, S. M., Eisen, A. Z., Marmer, B. L., Grant, G. A., Seltzer, J. L., Kronberger, A., He., C., Bauer, E. A., and Goldberg, G. I., 1988, J. Biol. Chem. 263, 6579-6587), endothelial cells (Kalebic, T., Barbisa, S., Glaser, B., and Liotta, L. A., 1983, Science 221, 281-283), bone (Murphy, G., McAlpine, C. G., Poll, C. T., and Reynolds, J. J., 1985, Biochem. Biophys. Acta 831, 49-58), fibroblasts (Collier, I. E., Wilhelm, S. M., Eisen, A. Z., Marmer, B. L., Grant, G. A., Seltzer, J. L., Kronberger, A., He., C., Bauer, E. A., and Goldberg, G. I., 1988, J. Biol. Chem 263, 6579-6587), polymorphonuclear leukocytes (Uitto, V. J., Schwartx, D., and Veis, A., 1980, Eur. J. Biochem. 105, 409-417) and macrophages (Garbidsa, S., Ballin, M., Daga-Giordini, D., Fastelli, G., Naturale, M., Negro, A., Semenzato, G., and Liotta, L. A., 1986,

J. Biol. Chem. 261, 2369-2375). This enzyme is a neutral metalloproteinase of 68 to 72 kilodaltons which is secreted in zymogen form (Liotta, L. A., Abe, S., Gehron-Robey, P., and Martin, G. R., 1979, Proc. Natl. Acad. Sci. U.S.A. 76, 2268-2272; Liotta, L. A., Tryggvassin, K., Garbisa, S., Gehron-Robey, P., and Abe, S., 1981, Biochemistry 20, 100-104; Salo, T., Liotta, L. A., and Tryggvsasson, K., 1983, J. Biol. Chem. 258, 3058-3063). In addition, several other members of this collagenase gene family have been described recently, including a second type of stromelysin (stromelysin-2), a 92 kilodalton form of type IV collagenase, and Putative Uterine Metalloproteinase (PUMP)-1, a low molecular weight uterine collagenase (Wilhelm, S. M., Collier, I. E., Marmer, B. L., Eisen, A. Z., Grant, G. A., and Goldberg, G. I., 1989, J. Biol. Chem. 264, 17213-17221; Woessner, J. F. and Talpin, C. J., 1988, J. Biol. Chem. 263, 16918-16925).

US-PAT-NO: 5583153

DOCUMENT-IDENTIFIER: US 5583153 A

TITLE: Use of taxol in the treatment of rheumatoid arthritis

DATE-ISSUED: December 10, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brahn; Ernest	Encino	CA	N/A	N/A

APPL-NO: 08/ 319236

DATE FILED: October 6, 1994

US-CL-CURRENT: 514/449; 514/475

ABSTRACT:

An improved method of suppression of a progressive, inflammatory, autoimmune arthritis in a mammal involves the use of the drug Taxol. In general, such a method comprises administering to a mammal having or susceptible to arthritis Taxol in a pharmacologically acceptable carrier capable of solubilizing Taxol in a dose sufficient to suppress at least one symptom of arthritis selected from the group of inflammation, swelling, abnormal neovascularization, bone erosion, and cartilage erosion. The use of Taxol can be combined with the use of other antiarthritic drugs, such as the angiogenesis inhibitor AGM-1470, to produce a greater therapeutic effect than with either Taxol or the other antiarthritic drug alone.

15 Claims, 13 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

---------- KWIC ---------

Detailed Description Text - DETX:

Conditions manifesting pannus require neovascularization to occur and to be maintained. AGM-1470 is one of the few angiogenesis inhibitors to be evaluated in vivo. It has demonstrated efficacy in angiogenesis inhibition and suppression of solid tumor growth in a variety of cancer models (D. Ingber et al. (1990), supra; H. Brem & J. Folkman (1993), supra; Y. Takamiya et al. (1993), supra). It has little effect on nonreplicating endothelial cells and angio-independent ascitic leukemic cells, suggesting that it is not merely an

antiproliferative agent (D. Ingber et al. (1990), supra). Suppression of vasculitis in a murine model of Kawasaki's Disease has also been demonstrated using AGM-1470 (D. J. Peacock et al., Arthritis Rheum. 36: S93 (1993) (abstract)). The primary mechanisms of action of AGM-1470 are currently under investigation. In vitro, AGM-1470 inhibits fibroblast growth factor (FGF) induced stimulation of endothelial cell migration, proliferation, and capillary tube formation (D. Ingber et al. (1990), supra; H. Brem et al., Surg. Forum 42: 439 (1991); M. Kusaka et al. Biochem. Biophys. Res. Comm. 174: 1070 (1991)), all key steps in the process of neovascularization (D. C. Billington, Drug Des. Dis. 8: 3 (1991)). AGM-1470 also inhibits in vivo neovascularization induced by basic FGF in the cornea micropocket model (E. M. Gonzalez et al., Invest. Ophthamol. Vis. Sci. 33: 777 (1992) (abstract)). Possible additional mechanisms of angioinhibition may include stimulation or inhibition of other cytokines associated with angiogenesis regulation such as TNF-.alpha., ECGF, IFN-.alpha. and IFN-.gamma. (J. Folkman & M. Klagsbrun (1987), supra; N. Sato et al., J. Invest. Dermatol. 95 (Suppl. 6): 85S (1990)). Vascular effects may also occur through various endogenous inhibitors such as TIMP-1 and TIMP-2, which regulate the activity of **matrix metalloproteinases required for penetration of the basement membrane** by activated endothelial cells during neovascularization (M. A. Moses et al., Science 248: 1408 (1990); M. A. Moses & R. Langer J. Cell Biochem. 47: 230 (1991)). Modest angiogenesis inhibitory activity has been associated with several agents used in autoimmune therapies. Methotrexate, cyclophosphamide, and azathioprine have a direct inhibitory effect on many cell types undergoing rapid turnover although of these, only methotrexate has been shown to be angiostatic in vitro and in vivo (S. Hirata et al., Arthritis Rheum. 32: 1065 (1989)). D-penicillamine, another anti-rheumatic drug, has also demonstrated an angioinhibitory capacity (T. Matsubara et al., J. Clin. Invest. 83: 158 (1989)). In addition, the thiol moiety of gold compounds has inhibitory effects upon macrophage mediated angiogenic activity (A. E. Koch et al., Agents Actions 34: 350 (1991)). Finally, chloroquine and the sulfasalazine metabolite, sulfapyridine, have both been ascribed angiogenesis inhibitory properties (A. L. Inyang et al., Cell Biol. Int. Rep. 14: 35 (1990); R. Madhok et al., J. Rheum. 18: 199 (1991)). Despite these findings, other physiologic actions characteristic of these anti-rheumatic agents make it difficult to determine the importance of anglogenesis inhibition in their activity in autoimmune therapy.

US-PAT-NO: 5372809

DOCUMENT-IDENTIFIER: US 5372809 A

TITLE: Antigenic matrix metalloproteinase peptides

DATE-ISSUED: December 13, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Liotta; Lance A.	Potomac	MD	N/A	N/A
Stetler-Stevenson; William	Silver Spring	MD	N/A	N/A
Krutzsch; Henry	Bethesda	MD	N/A	N/A

APPL-NO: 07/ 830313

DATE FILED: January 31, 1992

PARENT-CASE:

This is a division of application Ser. No. 07/488,460, filed Feb. 26, 1990, now U.S. Pat. No. 5,280,106, which is a continuation-in-part of application Ser. No. 07/317,407, filed Mar. 1, 1989, now U.S. Pat. No. 5,270,447, which is a continuation-in-part of application Ser. No. 07/248,420, filed Sep. 23, 1988, now abandoned, which is a continuation-in-part of application Ser. No. 07/196,242, filed May 20, 1988, now abandoned.

US-CL-CURRENT: 424/185.1; 530/326 ; 530/806 ; 530/810 ; 930/10

ABSTRACT:

A family of metalloproteinases exist which cleave extracellular matrix molecules. These metalloproteinases are secreted in a latent inactive form and require activation in order to specifically cleave the preferred substrate. A series of peptides have been prepared based on the complete sequence analysis of type IV procollagenase. Peptide inhibitors were synthesized which correspond to cysteine repeat regions and histidine containing regions; the mechanism of action of these peptides involves inhibition of binding of the enzyme to the substrate. Peptide inhibitors were synthesized which correspond to the peptide cleaved off during activation, and constitute a novel class of metalloproteinase inhibitors. These inhibitors are members of a series of peptides which contain the core amino acid sequence RKPRC or analogs thereof. The cysteine residue is required for activity. Affinity purified antibodies directed against specific peptides can be used to a) detect any general metalloproteinase enzyme with the sequence in part VAAHE or PRCGNPD, and distinguish it from other known members of the metalloproteinase family, b) block functional domains resulting in the inhibition of enzyme activity, and c) distinguish latent from activated forms of the enzyme.

6 Claims, 13 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14

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Brief Summary Text - BSTX:

The degradation of interstitial and basement **membrane collagens is initiated by a specific class of metalloproteinase, the matrix metalloproteinases,** also known as the collagenases (EC 3.4.24.7), which are secreted into the extracellular matrix in zymogen form. Members of this collagenase gene family include: the interstitial collagenases, which degrade collagen types I, II and III and have been characterized with respect to substrate specificity and requirements for activation (Stricklin, G. P., Jeffrey, J. J., Rosewit, W. T., and Eisen, A. Z., 1983, Biochemistry 22, 61-68; Goldberg, G. I., Wilhlem, S., Kronberger, A., Bauer, E. A., Grant, G. A., and Eisen, A. Z., 1986, J. Biol. Chem. 261, 6600-6605; Hasty, K. A., Jeffrey, J. J., Hibbs, M. S., and Welgus, H. G., 1987, J. Biol. Chem. 262, 10048-1052; Fields, G. B., Van Wart, H. E., and Birkedal-Hansen, H., 1987, J. Biol. Chem. 262, 6221-6226; Grant, G. A., Eisen, A. Z., Mariner, B. L. Rosweit, W. T., and Goldberg, G. I., 1987, J. Biol. Chem. 262, 5886-5889); stromelysin, which degrades proteoglycans, glycoproteins, and the non-helical portions of collagenous molecules (Wilhelm, S. M., Collierm, I. E., Kronberger, A., Eisen, A. Z., Marmer, B. L., Grant, G. A., Bauer, E., and Goldberg, G. I., 1987, Proc. Natl. Acad. Sci. U.S.A. 84, 6725-6729; Whitman, S. E., Murphy, G., Angel, P., Rahmsforf, H. J., Smith, B. J., Lyons, A., Harris, T. J. T., Reynolds. J. J., Herrlich, P. and Docherty, A. J. P., 1986, Biochem. J. 240, 913-916); and type IV collagenase, which degrades pepsin-resistant triple-helical type IV collagen and interstitial collagens (gelatin). Type IV collagenase has been identified in human tumor cells (Liotta, L. A., Kleinerman, J., Catanzaro, P., and Rynbrandt, D., 1977, J. Natl. Cancer Inst. 58, 1427-1439; Turpeenniemi-Hujanen, T., and Tryggvason, K., 1982, Int. J. Cancer 30p, 669-673; Liotta, L. A., Abe, S., Gehron-Robey, P., and Martin, G. R., 1979, Proc. Natl. Acad. Sci. U.S.A. 76 2268-2272; Liotta, L. A., Tryggvasson, K., Garbisa, S., Hart, I., Foltz, C. M., and Shafie, S., 1980, Nature, Lond., 284, 67-68; Collier, I. E., Wilhelm, S. M., Eisen, A. Z., Mariner, B. L., Grant, G. A., Seltzer, J. L., Kronberger, A., He., C., Bauer, E. A., and Goldberg, G. I., 1988, J. Biol. Chem. 263, 6579-6587), endothelial cells (Kalebic, T., Barbisa, S., Glaser, B., and Liotta, L. A., 1983, Science 221, 281-283), bone (Murphy, G., McAlpine, C. G., Poll, C. T., and Reynolds, J. J., 1985, Biochem. Biophys. Acta 831, 49-58), fibroblasts (Collier, I. E., Wilhelm, S. M., Eisen, A. Z., Marmer, B. L., Grant, G. A., Seltzer, J. L., Kronberger, A., He., C., Bauer, E. A., and Goldberg, G. I., 1988, J. Biol. Chem 263, 6579-6587), polymorphonuclear leukocytes (Uitto, V. J., Schwartx, D., and Veis, A., 1980, Eur. J. Biochem. 105, 409-417) and macrophages (Garbidsa, S., Ballin, M., Daga-Giordini, D., Fastelli, G., Naturale, M., Negro, A., Semenzato, G., and Liotta, L. A., 1986, J. Biol. Chem. 261, 2369-2375). This enzyme is a neutral metalloproteinase of 68 to 72 kilodaltons which is secreted in zymogen form (Liotta, L. A., Abe, S.,

Gehron-Robey, P., and Martin, G. R., 1979, Proc. Natl. Acad. Sci. U.S.A. 76, 2268-2272; Liotta, L. A., Tryggvassin, K., Garbisa, S., Gehron-Robey, P., and Abe, S., 1981, Biochemistry 20, 100-104; Salo, T., Liotta, L. A., and Tryggvsasson, K., 1983, J. Biol. Chem. 258, 3058-3063). In addition, several other members of this collagenase gene family have been described recently, including a second type of stromelysin (stromelysin-2), a 92 kilodalton form of type IV collagenase, and Putative Uterine Metalloproteinase (PUMP)-1, a low molecular weight uterine collagenase (Wilhelm, S. M., Collier, I. E., Marmer, B. L., Eisen, A. Z., Grant, G. A., and Goldberg, G. I., 1989, J. Biol. Chem. 264, 17213-17221; Woessner, J. F. and Talpin, C. J., 1988, J. Biol. Chem. 263, 16918-16925).

US-PAT-NO: 5280106

DOCUMENT-IDENTIFIER: US 5280106 A

TITLE: Matrix metalloproteinase peptides: role in diagnosis and therapy

DATE-ISSUED: January 18, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Stetler-Stevenson; William	Silver Spring	MD	20902	N/A
Krutzsch; Henry	Bethesda	MD	20817	N/A

APPL-NO: 07/ 488460

DATE FILED: February 26, 1990

PARENT-CASE:

This is a continuation-in-part of application Ser. No. 07/317,407, filed Mar. 1, 1989, which is a continuation-in-part of application Ser. No. 07/248,420, filed Sep. 23, 1988, now abandoned which is a continuation-in-part of application Ser. No. 07/196,242, filed May 20, 1988, now abandoned.

US-CL-CURRENT: 530/330; 435/219 ; 435/226 ; 530/300 ; 530/324 ; 530/327 ; 530/329 ; 930/250

ABSTRACT:

A family of metalloproteinases exist which cleave extracellular matrix molecules. These metalloproteinases are secreted in a latent inactive form and require activation in order to specifically cleave the preferred substrate. A series of peptides have been prepared based on the complete sequence analysis of type IV procollagenase. Peptide inhibitors were synthesized which correspond to cysteine repeat regions and histidine containing regions; the mechanism of action of these peptides involves inhibition of binding of the enzyme to the substrate. Peptide inhibitors were synthesized which correspond to the peptide cleaved off during activation, and constitute a novel class of metalloproteinase inhibitors. These inhibitors are members of a series of peptides which contain the core amino acid sequence RKPRC or analogs thereof. The cysteine residue is required for activity. Affinity purified antibodies directed against specific peptides can be used to a) detect any general metalloproteinase enzyme with the sequence in part VAAHE or PRCGNPD, and distinguish it from other known members of the metalloproteinase family, b) block functional domains resulting in the inhibition of enzyme activity, and c) distinguish latent from activated forms of the enzyme.

4 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14

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